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THE CAROLINA CULTIVATOR.

Dedicated to Agriculture, Horticulture, and the Mechanic Arts.

WILLIAM D. COOK & Co., Editor. and Publisher.

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Miscellaneous.

From the Country Gentleman.

The Cream-Pot Breed of Cattle.

A few weeks since some one inquired through the columns of the Country Gentleman concerning the Cream-pot stock, about which much was said twenty years ago. In the Country Gentleman of the 29th ult., your correspondent 'N' of Farmington, Ct., says "eighteen months since I saw the original Cream-pot cow of Col. Jaques, in possession of the Messrs. T. S. Gold & Son, of West Cornwall, Ct." Whether this be so or not, the reader may judge, after reading what has been carefully prepared from original and authentic documents.

Vol. 3—No. 1.—B.

It may be proper before proceeding to the history of the Cream-pot breed of cattle, to speak of Col. Samuel Jaques, himself, the originator of this Native American stock, the only breed, according to my present information, that has been produced on this continent.

Col. Samuel Jaques is now an octogenarian, healthy, hale, and well, with a step as elastic as a man of forty. He not only retains his vigor of body, but quickness and strength of mind. Hence, as will readily be inferred it is a great treat to sit and hear the venerable Col. converse concerning the past, as well as of the present. Though, as he says, "there was never a cent paid for my education," yet, like the uncles of the late Hugh Miller, who, notwithstanding, one of them was a stone-cutter and the other a harness-maker, laboring for daily food and raiment, became distinguished for their knowledge of nature's laws and processes, so has Col. Jaques from careful experimenting, become deeply read in the laws of animal propagation.

Like the majority of the native sons of the Bay State, seventy years ago, the Col. when a boy enjoyed few advantages. He served his father as a faithful son until he was twenty-one, when he hired out for seven dollars a month, at a stable, working eighteen hours a day,—long days, young men of the present age would say, and rightly so, too.

The industry, integrity, perseverance and economy of a long life have been crowned with

an ample competency of this world's goods, as well as a generous share of its fame and glory. Col. Samuel Jaques still resides at Ten Hills Farm, in Charlestown, where he has lived for many years. His farm consists of about 160 acres, and is only about two and a half miles from the Merchants' Exchange in Boston.—The location is one of the pleasantest in this land of delightful and happy homesteads. It is near Winton Hill, and looks over Bunker Hill, Charlestown, Boston, and an innumerable number of fine and beautiful suburban residences. Mystic river forms part of the northern boundary, up which Gov. Winthrop sailed and anchored, and where he caused to be built the first ship in New England, called "The Blessing of the Bay." This was in 1631, 11 years after Plymouth was settled.

Contiguous to this farm is Mt. Benedict, where stood the Ursuline Convent, burned by an infuriated mob Aug. 11, 1834. The ruins are all that now mark that memorable spot, serving to remind the reflecting sojourner or pilgrim, of the bitterness of sectarian zeal and hate.

Here the Col. in his quiet and unostentatious way, has wrought out many important results concerning the breeding of the various species of domestic animals. Others beside that now under consideration, will be referred to in a subsequent communication on stock breeding. But it is time to proceed to the topic already announced.

The bull Cœlebs, is thus described in the Colonel's Herd Book :

"Red and white, variagated dropped March 20, 1818. He was selected and purchased in Kent, England, and imported by Cornelius Coolidge, of Boston, in July, 1818."

The following account was received from Mr. Coolidge, via. Mr. Anderson, concerning the pedigree of Cœlebs :

"Mr. Hodgeson—Sir : I received your note this morning respecting the calf which was sent to you by my friend; at the same time you wish to have a note specifying the breeding on both sides. I suppose by this you have sold the same, for which I am very sorry to hear, but will nevertheless, on the other side, give you the full account of the breeding on both sides, the age, &c.

I am, sir, your most ob't serv't.

W. ANDERSON.

Lewisham, 17th July, 1818.

Here follows the pedigree thus given :

"Grand-dam purchased at Sir. H Vain's sale. Price 60 guineas. Dame got by Wellington, at that time the property of Charles Colling, Esq. Grand-sire the famous bull Comet, which was sold for 1,000 guineas. Sire, which is called Hercules, out of a cow of Mr. Mason of Marlinton, which was purchased by my friend Mr. Ballmer."

The following extract from a Catalogue of a public sale in October, 1810, will show how this stock is appreciated in England :

"Comet, the grandsire of Cœlebs, was sold at public auction at Collings' sale at Kelton in 1810, (6 years old,) for 1,000 guineas—afterwards in 1813, he was sold again for 1,540 guineas. At the aforesaid sale were sold cows got by Comet, from 80 to 200 guineas each; and one, the cow Lily, three years old, for 410 guineas; bull calves from 50 to 170 guineas each; heifers from 105 to 206 guineas, and heifer calves from 25 to 106 guineas each."

Mr. Coolidge in a letter to Colonel Jaques, says :

"Upon the examination of the memorandum of the pedigree of Cœlebs, sold to you, I am of the belief that his sire was Jupiter instead of Hercules, named at the time to you. From consultation at the time of purchase, in Kent, of Mr. Hodgson, I recollect he so stated to me; but that when he brought him up to London with the letter from Mr. Anderson, I noticed Hercules was named instead of Jupiter, which I am satisfied, was a mistake, though at the time it was not deemed of any importance, as there could have been no possible motive for any wilful misrepresentation."

The letter referred to is Mr. Anderson's, copied above.

Thus much for the pedigree of Cœlebs, a pure blooded Durham bull, and the first sire of the Cream-pot breed. At the time the Col. bought the bull, he also purchased of Mr. Coolidge, Flora, a heifer of the same blood, dropped Aug. 31, 1817.

"Her dame," says Coolidge, "was a Durham short horn cow, which gave 33 quarts of milk a day, during grass feed, and was got by Comet. Lafon's bull weighed 1,950 lbs., when two years old."

Besides these two animals, the Colonel purchased, soon after, a cow of Mr. Hall of Gorton. The owner knew nothing of her origin

She had no leading points of any particular foreign breed. Her color was a deep red. She was of a medium size, of good form for a native, (?) and silky and elastic, or excellent in the touch; and distinguished for the quantity and extraordinary richness of her milk. Cœlebs went to this cow and the calf was a heifer. Her next calf was a bull. The heifer when mature proved a very superior cow, both as to the quantity and quality of her milk, producing 21 quarts per day; and the cream making 21 lbs. of butter per week, on grass feed alone. This induced Col. Jaques to adopt the name of Cream-pot as the family name of this breed of cattle.

From these three animals, Cœlebs, Flora and Groton, thus described, sprang the Cream-pot breed of cattle, thorough-bred animals, as will appear from further statements.

Cœlebs died April 12, 1828.

Flora died in 1834.

Groton died Sept. 1828.

So it is hardly possible that your correspondent of a neighboring State saw "the original Cream-pot cow of Col. Jaques within the last eighteen months;" for these animals all died many years ago on Ten Hills Farm, as recorded in the Colonel's Herd Book from which I have copied these statements concerning the origin, pedigree and history of the Cream-pot breed of cattle, and there had an honorable burial. This article having already extended to too great a length, I feel compelled, therefore, to reserve the further history of the Colonel's manner of breeding, &c., for another occasion.

Having visited the homestead of the veteran stock-breeder, and conversed with him face to face on this subject, and having had put into my hands his Herd Book, you will readily perceive that I am furnished with the means of answering the inquiries of your correspondent, published some weeks since in your paper about this thorough-bred stock.

COLUMELLA.

WIRE NETTING TO PREVENT BURNING AGAINST STOVE.—Last Fall we obtained a strip of wire netting about eighteen inches wide, and long enough to go around an air-tight stove except the door. It is put around the stove as close as is convenient, and secured by a wire. Now for the result. If the stove is very hot, the

netting will not scorch clothing that may touch against it, or burn the hand by lightly brushing it. It does not confine the heat in the stove, but presents a larger radiating surface, to throw it out. In the absence of something more ornamental for this purpose, in the nursery or even in the parlor where there are young children, it is very useful, and saves the necessity of that so oft repeated call, "don't get too near the stove."

From the Plough, Loom and Anvil.

Bones as Manure.

A writer in the *New Jersey Farmer*, copied into the *Richmond Whig*, says:

"Last fall a lot of bones were thrown in a heap of horse manure in the barn-yard, and for no other purpose than to get them out of sight. To this heap the manure of the horse stable was daily added. In the Spring, upon carting out the manure, the bones were found apparently the same as when thrown in—whole and sound; but upon being handled, were found to be soft; when lifted, would fall to pieces of their own weight; when exposed to the air, would crumble and become as ashes, emitting a strong and offensive odor. This incident led to a trial of the same experiment last Spring, in the same manner and with the same result.

"We do not pretend to fix the chemical process by which this result is attained; we merely know that such is the result. And if a result so happy in its effects is produced at so little trouble, and with such little cost, our farmers may well spare an odd day in gathering together the old bones lying about their farms, and for the mere trouble of gathering them, add to their lands one of the most fertilizing materials that can be obtained."

The fact is, as the writer states, and that whether the bones be thrown into a heap of horse manure, or put into any other situation where heat will be communicated and fermentation ensue; as, for instance, if they be covered with coal-ashes, wood-ashes, loam, or even sand, and left exposed some time in Spring or Summer to the influence of the sun. The bones will retain their shape, and will retain their size, or be a little enlarged, but will fall into pieces if handled or removed with an implement.

Now let us see what has taken place: the

bone being about thirty-three per cent. of animal matter, mostly gelatine, (glue.) and sixty-six or sixty-seven per cent. of mineral matter, mostly phosphate of lime, with very little of the carbonate of lime, has undergone a fermentation by which the animal matter is nearly all separated from the mineral. But where has the animal matter gone? In the case above, not all of it had gone anywhere, for the writer says the odor was offensive. There would have been no odor whatever if the animal matter had all been separated. But most of it had left the mineral part, or the latter would not have crumbled to pieces. The principal value of the animal portion, which had left the bones, was ammonia, and where this had gone, depends upon the condition in which the manure was. If the surface was moist during the whole time that the bones were in it, then the ammonia had diffused itself about among the manure, where it would be retained by the moisture, to be used by plants, if the manure were plowed in soon after removal, or even if spread as a top dressing, provided it were spread in a rainy time, and spread so evenly as to bring it into close contact with the soil. But if the manure was in a dry state, from its surface downward to the bones, which would imply a high fermentation, approaching to fire-fanging, then the ammonia went into the air, and the greater portion of the value of the animal part of the bones was lost to the owner.

If we are understood, it will be sure to follow as an inference, that animal manures should be preserved in a moist state, as thus the ammonia will be preserved. We do not mean drenched in water, for that would wash away the soluble salts, but moderately moist; and this rule, as far as it conveniently can be, should be observed in the preservation of barn manures, that neither the salts may be washed away nor the ammonia steamed away. But for the mineral part of the bones:—almost its whole value lies in the phosphate of lime. This, in such a case of fermentation, remains, in the mass, as insoluble phosphate—a very different thing from the soluble super-phosphate of commerce, but still valuable, because we believe it becomes soluble in the soil, and constantly gives as great an increase of crops as the super-phosphate, but does not give it all the first year, nor the second—not as soon as the enterprising farmer desires his returns. Bones in

large quantities should certainly be treated to sulphuric acid, and thus changed into super-phosphate of lime and sulphate lime, (plaster,) both of which act quickly, and give an early return. How to dispose of the few bones that may be called on a farm is another question. They would not be worth the establishment of a super-phosphate factory, and there is some trouble in procuring sulphuric acid, and besides there are no bone-mills for grinding them. The farmer very justly says, they are not worth the time and trouble of manufacturing into super-phosphate. To deal with them as the writer above describes, is certainly better than to leave them as a nuisance about the farm. We think, however, there is a better way, and we will point it out in a future number. In the mean time, the bones should be preserved.

N.

Cabbage, Turnips, and other Crops.

The quantity per acre of cabbages, turnips, and roots, that under favorable circumstances can be grown upon an acre of land, is truly astonishing. The amount and value of green food for farm stock that can be raised on an acre of ground, we think is not well understood by a large majority of our farmers. It is generally thought that our climate, from its liability to drought (in summer and autumn,) is not so favorable to the production of turnips, root crops, &c., as the more humid climate of England, Scotland, and Ireland. This, to some extent, may be true; but still we have hundreds of well authenticated statements, showing most clearly that the several kinds of vegetables usually grown for autumn and winter feeding of cows and other farm stock, can generally, by good culture, be profitably grown in most sections of our country. But in order to do this, the due preparation of the ground, the proper season of sowing the seed, and the after-culture, should all be well understood and attended to in due season.

Farmers, it is said, have strong prejudices, and are slow to adopt new systems of culture, and perhaps this may partly account for the little attention that is usually paid by them to the growing of cabbage, turnips, and other root crops for their stock. But all readily admit that the health, thrift, and well being, of

our horses, sheep, and cattle, would be greatly promoted by a regular daily allowance of green succulent food, in connection with the dry forage they are usually kept upon through our long cold winters. And no less true is it, that the quantity and quality of milk, cream, and butter, of an herd of cows, would be greatly augmented by a good supply of succulent food, such as cabbage, rape, green eorn fodder, (or perhaps better, Chinese sugar cane) during the usually dry autumnal months.

In England, Scotland, and Ireland, the cultivation of green crops—that is cabbage, rape, turnips, roots, &c. enters very largely into their systems of farming, and the quantity raised is enormous. At the annual winter show of the Royal Dublin Society, holden in Dublin 2d week of Dec., premiums were awarded for the best crops of turnips, wurzels, beets, carrots, parsnips, kohl rabi, cabbages, and various other crops. But here we only give the weight per acre of the above. It is proper here to say that the English or statute acre contains 4,840 square yards—the Irish acre contains 7,840 square yards.

Sweedish turnips, first prize to Dr. Radcliff—49 tons farm yard manure per acre—produce 65 tons—seed sown last week in May. The second prize awarded for 47 tons per acre— 6 tons farm-yard manure per acre—seed sown 3d of June. Premiums for wurzels—three several crops, two of 80 tons each per Irish acre, and for one of fifty-five tons—farm-yard manure only used. Prize for 84 tons sugar beet—48 tons farm-yard manure per acre. Three prizes for carrots, viz: for 36, 35, and 26 tons per acre. White carrots 45 tons 7 cwt. 45 and 33 tons per acre. Parsnips 30 tons. Kohl-rabi—drills 28 inches apart—46 tons manure—sown in May last, 40 tons and 34 tons per acre. Cabbage, two prizes for 80 and 60 tons per acre. It is worthy of note that in all these trials none other than farm-yard manure was used.

It might not be good policy for American farmers to go so largely into the culture of green crops as is done in the countries above named. One reason is, our winters requiring they should, like potatoes, be stowed beyond the reach of frost. This would make it inconvenient storing very large quantities, but almost every farmer could so arrange as to secure a few hundred bushels for winter feeding

to his stock. Cabbage and rape may be raised so as be fed to milch cows from early in July till November; and large quantities can readily be saved for spring use by opening trenches with a plow, and burying them in the trench, "head downward." We could cite from the reports and transactions of agricultural societies, hundreds of statements, proving beyond all cavil, the advantage and profit of growing cabbages, turnips, b ets, carrots, parsnips and wurzels, for stock feeding.

We have alluded to this subject at this time, for the purpose of calling the attention of farmers to it at this comparative leisure season of the year. It is a good time to lay their plans, procure seeds, &c., for the coming spring.—*Country Gentleman.*

♦♦♦♦♦
MANURING.—It has been taught by Professors of Agricultural Chemistry, and apparently on reasonable grounds, that the very worst way to apply manure was to spread it out on the field and leave it exposed. It was argued that this exposure caused a loss of ammonia by evaporation, hence farmers were taught to plough their manures under as soon as they were spread on the soil, under the penalty of losing a great deal of their fertilizing properties. An essay on this subject by Dr. Voelcker, Professor of Chemistry in the Royal Agricultural College, at Cirencester, England, contains statements that will surprise our farmers. He asserts, that if spread upon the field and allowed to lie until it is washed with rains, it is more beneficial than to plough it in at once. When spread out on a field, fermentation is stopped, and volatile matter ceases to escape. In the case of clay soils, he remarks: "I have no hesitation to say, that the manure may be spread even six months before it is ploughed in, without losing any appreciable quantity of manuring matter."

✂ Never waste animal or vegetable refuse. The very soap suds from the laundry are rich manure.

♦♦♦♦♦
The cold moderates immediately preceding a fall of snow, because the vapor in the atmosphere, in the act of congealing into snow, parts with many degrees of heat which before were latent.

♦♦♦♦♦
A German chemist is said to have discovered a means of obtaining crystallized sugar from birch wood.

From the Southern Cultivator.
Angora Goats.

EDITORS SOUTHERN CULTIVATOR.—As this class of domestic animals are occupying some space in the public consideration, and several gentlemen are aiding in giving information on this very interesting subject, with your permission I will offer the following extract from Dr. ABRAHAM RESES'S *Cyclopadia or Universal Dictionary of Arts, Sciences and Literature*," upon the authority of HASSELG, BUF-
 RON and PENNANT.

"The Angora Goat is, in general, of a beautiful *milkewhite* color, with short legs, and black, spreading, spirally twisted horns. The hair on the whole body is disposed in long pendant spiral ringlets; its ears are pendulous, and the horns of the female instead of divaricating, as in the male, turn backwards, and are much shorter in proportion.

"In its native country this animal is highly valued, and with sufficient reason too, for it is a source of riches to its cultivators; the finest and most costly robes of the highest classes in Turkey, being fabricated of its silky fleece; the price it bears is very great. Most of the European nations have agents for purchasing the valuable wool of this animal, which, the Turks, it is reported, will not allow to be sent out of their Empire in a raw state, but in the form of thread, a multitude of the poorer orders obtaining a livelihood by spinning it. The most considerable manufactory of camblets, fabricated with this wool in Europe, appears to be those of Lisle and Ameina, in France. In order to preserve this beautiful hair in good condition, the goatherds of Angora are peculiarly careful of these flocks, washing and combing them with the greatest diligence; and it is said that *change of pasture* frequently makes them lose their beauty; this variety being naturally confined to narrow bounds, and produced only in the tracts surrounding the towns of Angora and Bubazar, two places situated in a small District of Asia Minor, not far from Smyrna, and remarkable for producing a peculiar race of *sheep, cats and rabbits*, as well as goats, with hair of uncommon length and fineness."

In the plates of natural history in the same work may be found the likeness of an Angora male goat that will be found sufficiently resembling those of Mr. PETERS in the Southern Cul-

tivator to identify the family appearance. I am, myself, perfectly satisfied that Mr. PETERS' Goats are what the world knows as Angora. I can find no such goat as "Cashmere" in any work I have examined. Why not, then, drop *innovation*, "Cashmere Goat," and use the proper phrase, "Angora Goat?" and then the balance of the intelligent world will know what we are talking about.

These goats are, no doubt, very valuable in and about Angora. Whether their Angora gloss will be retained in our climate and pasture must be determined by experiment. Whether the price of labor with us can justify *washing* and combing goats as the Angora goatherds do is another interesting problem. And also time and futher experience, must settle the question whether the mixture of the Angora with our common goats, will be as valuable as some of our ardent people now think. And lastly, the proper mode of manufacturing the Angora Goat hair to profit, is the crowning result necessary in order to establish the true value of this family of goats in this country.

AGRICOLA.

From the Southern Cultivator.
Letter From Texas.

EDITORS SOUTHERN CULTIVATOR.—This section of country is yet new in cultivation; but the rich soil and delightful climate are inviting rapid improvements.

As to soil, it is not inferior to the Mississippi bottom, and you have no idea or conception of the beauty of our prairies in flowering time.

I send you a few seed of a beautiful shrub tree, called "The Free-ho-lee-ah," which I have never seen growing anywhere but in Texas. It is an evergreen: grows from 3 to 8 ft. high; leaf green and resembling the *Kalmia* of Virginia; the flower is purple and in bunches, similar to the Locust flower; the petals similar to and forming a flower like the pea.

It blooms about the 21st of March, and the seed are enclosed in a pod of the ground pea appearance, and generally two in a pod.

I feel confident, if this can be raised in your section, it would be the delight and admiration of the ladies, as also other lovers of floral beauty.

I send you a sample of Mexican Onion seed, which I procured fresh from Mexico. This

onion is highly prized by the lovers of that succulent vegetable. It is without the strength of the common onion, being so mild you may eat it as you do an apple. I have seen it as large as a common saucer, and when sliced it looks as though it had been iced.

I am told they do not grow to that perfection North, as here. It may be so, but "they say" has injured more crops than ever did deep plowing.

I want to raise the ground pea, but know nothing of the mode of culture. Will you please, by letter or though the *Cultivator*, give me, minutely, the mode of preparing ground, planting, and after-culture? My soil is "black sandy loam," 4 to 5 feet deep, based on a stratum of clay, lime and sand.

Did you ever hear of the Salt Lakes of Texas? Do you want to? Last month I could have taken you to fifty places within 30 miles of me and have shown you millions of bushels formed by solar evaporation, and all you had to do was, back your cart and pitch in. You may judge of the quality, when I tell you I think there is enough (if salt would do it) to save all the Black Republicans in this Union; that would require a large quantity and great curative powers.

On the 23rd of February I set out 9 orange trees, and after the spring rains I mulched with chips and trash from wood yard, as directed in the *Cultivator*, and until the 21st of September they had no rain for 4 months (and a scorching hot summer). They are all safe and doing well—credit to the *Cultivator*.

I think this section is going to produce fine Sea Island Cotton. A small sample was tried last year at Corpus Christi, and received the highest encomium from judges in New Orleans. It will be fairly tested next year.

With respect, F. B.

Rancho, near Corpus Christi, Texas, Oct., 1856.

SUBSTITUTE FOR LEATHER.—A writer in the *Scientific American* suggests that some preparation of hemp, made up like papier mache might be made effectual as a substitute for sole leather; a cement of India rubber, mixed with other adhesive substances, may be employed to unite the fibres together. Sole leather is fibrous, as can be witnessed by tearing a piece of it lengthwise. Its appearance, when thus riven, is like that of oakum felted.

Wealth North and South.

The clamorous horn of intermeddling Abolitionists are continually imposing upon themselves by fallacies and false deductions. When what they say on this subject is examined, it will always be found to have no basis in fact. The bigotry of faction so blinds their perceptions, that, though the truth stares them in the face, they assert and often believe the most absurd of fictions.

Not satisfied with saying that slavery exercises a detrimental influence upon religion, manners and morals, their fanaticism has also made them believe or assert, in spite of a contrary belief, that our system impairs our wealth, and checks our material progress.—Yet ascertained and definite facts would show them their error if they were capable of reasoning upon a subject which constitutes their monomania.

Accompanying the late report of the Secretary of the Treasury, is an official table showing the population and total value of real and personal property in each State. A few comparisons of Southern with Northern States will show distinctly that the average wealth of the latter is far greater in every instance than that of the former.

The population of Wisconsin (552,109) and Vermont (325,206) amounts to 887,315. The total real and personal wealth of both States is \$177,665,680. With these two States compare Alabama, whose population is 835,192, and the value of whose property is \$280,233,027. Its population is less by 50,000—*its wealth is greater by one hundred millions of dollars.*

Maine has a population of 623,862; the value of its property is \$131,128,186. But Maryland, whose population is 639,560, (or about 16,000 only more than Maine,) has property to the value of \$561,243,660—greater again than the corresponding free State by more than one hundred and thirty millions of dollars.

Indiana numbers 1,149,606 inhabitants, and its wealth is \$301,558,474. Tennessee numbers 1,092,470, (67,900 less,) but its wealth is \$321,771,310, or nearly twenty-one millions of dollars more than the free State.

Texas numbers 500,000, and has wealth to the amount of \$240,000,000. While New Jersey, with 509,499 inhabitants, has only \$179,750,000 in property.

The total population of New York is 3,470,059, while Mississippi, Georgia, Louisiana and Kentucky, together, have only 3,283,630.—But while the wealth of New York is \$1,364,154,625, that of the other four States is \$1,432,050,000. Their population is 177,000 less—their wealth is \$78,000,000 greater.

So with the rest. Take the whole of the Southern States, and compare with them as many Northern States as are required to make up an equal population, and the difference in wealth will be largely in favor of the former.

But to make the comparison a fair one, the number of whites of the Southern States, should alone form the basis of the calculation instead of the slaves being numbered as a part of that population. The average wealth of every individual in the South capable of holding property, would then be seen to be more than double the average in the Northern States.

It is thus that the facts proved by statistics silence the wild assertions of fanatics and disprove the broad assumptions of bigotry. The comparative superiority of the South in wealth is a practical commentary on slavery, which ought to put an end to Northern falsifications and fallacies. The actual truth is so plain that the "wayfaring man, though a fool, need not err therein."

The only Northern State that bears comparison with the South in point of proportional wealth is Massachusetts. Her population is 1,133,123, and her aggregate wealth is \$597,936,995. But how has this wealth been accumulated? Two thirds of it are the profits on Southern trade or the gains of manufacturing articles mainly for the South—*Cotton Plant*.

♦♦♦♦♦
NEW SUGAR CANE CUTTINGS.—The bark *Release*, dispatched to South America under the directions of the Patent Office, to procure sugar cane cuttings for the relief of the planters of Louisiana is expected to return next month. The sugar crop of Louisiana, for several years past, has fallen off from 460,000 hogsheads of product to not more than 120,000. One cause which gives rise to very great apprehension on the part of the planters of Louisiana is the supposed deterioration of the cane. The cane cannot be planted from seed, but the cane itself must be planted, and the plant germinates from the eyes of the cane.—*Scientific American*.

The Follies of the Age Cause Poverty.

Not very long ago, Messrs. Editors, I furnished an article for your paper, in which I instituted some comparisons between the manners, habits, and customs of the present generation with those of our ancestors, or of the contemporaries of our youth, with a view to explain why it is that so few estates are now accumulated by farmers and planters. In that article I promised to renew the subject at some future period.

When I was a boy, the habits of the farmers of my native county were simple and unostentatious, while every necessary, and many of the luxuries of life were enjoyed in profusion. There was no perpetual struggle of one man, or family to excel every other in costliness of dress, equipage and living. The good matrons of the land were content to have their little ones in clean, plain, home made apparel. The young men and maidens did not make a god of fine clothes. They were content to dress plainly and cheaply during the week, and save their fur hats, broad cloths, and calicoes for Sunday. Bonnets were made not to stick upon the back of the head, solely for ornament but as a covering for the head and face. They were not made to expose the face to the public gaze, but to hide it from the sun, the winds and the gaze of the idle fools who stand at the corners of streets and way sides, to criticise the brazen countenances now exposed like full moons to the view of one and all. Dresses were then made to suit the form, and though not shaped to captivate by their balloon expansion by hoop and whalebone, did set off these forms in the most captivating light of modesty and shamefacedness. In those days it was the pride of the modest damsel to make as cheap and small a pattern as possible answer her purpose. But now, the skirts must swell out to inordinate dimensions, especially about the middle of the person, while the material must be of the most costly. The young men did not spend their money in northern trotters and fine buggies. They were content to ride on horseback. They could sit and manage a horse gracefully, and he was a clown indeed who could not leap a fence or ditch in a fox chase, and be in at the death.—But they can only sit a buggy in these degenerate days. We had a beautiful illustration of

these buggy boys horsemanship in some of the recent attempts to bear off the ring in the mis-called tournaments, in which bold dragoons were unhorsed, not by completing knights, but by their own awkwardness and bad riding.—But to return to bonnets. I well remember when two to three dollars would purchase a bonnet with which the wearer was perfectly contented. Now, to offer some of our fast ones a bonnet for less than 10 to 25 dollars, would be regarded as an indignity. It was the simplicity and economy of our husbandmen, as well as their wives, sons and daughters, and their moderation in all things, that enabled them to lay up money and gather estates. The son aided the father in the work of the farm, the daughter plied the needle beside the mother: the roses of health bloomed in their cheeks. Cheerfulness and contentment were the fruit of a conspicuously, well spent life, and the laboring farmer was ever greeted with warm affection and approving smiles when he came in to take his seat in the family circle. But now he comes but to find his sons gone to the haunts of dissipation, his wife and daughters full of fashion and shopping and spending money, and himself rated like a slave because physical ability or wits are not equal to the task of supplying interminable demands for money. Is not this sufficient to exhaust the fruits of honest labor? Is not this just the difference between poverty and wealth? Who that has a spark of patriotism in his heart can fail to deplore these changes? This is not an overstrained representation. It is the truth. Extravagance is the order of the day, it is growing in all classes, from the street sweeper to the bloated capitalists of the country. A wild and reckless waste of time, talents, money, *aye*, of human life itself. It is truly a degenerate age. Manhood is enfeebled; the fair part of creation no longer present pictures of health.—The step ceases to be light and elastic. For the rose of health, the palor of death, seems to be substituted. Industry is no longer esteemed a virtue among the sex, but a term of reproach.

I know my fair readers will not thank me for dealing thus plainly with them, but it is the love I bear them that prompts me to tell them to live for something useful. Not like the butterfly, to spend a few sunny days, fluttering in gaudy colors, and then wither away to nothing. Would you be truly lovely? Then dress for decency and comfort, not for show. Walk out

for exercise, not to exhibit a brazen face or a pretty foot, a fine bonnet or an expensive dress. Work that you may not live in vain; read, not that you may have the reputation of being a reader, but that you may gain knowledge and be what only can make you a desirable companion, a truly intelligent lady. You have no conception of the time spent in dressing and thinking and talking about it. In most instances, the same amount of time, spent in useful labor and in cultivating your minds, would qualify you to shine in any circle, or in any position. Don't study how much of your father's hard earnings you can spend in gew gaws and frippery, but how much you can save. Don't lament that you cannot keep up with the foremost in the race of fashion, but try and dispense with every really useless appendage of dress and ornament. Let your outward adornment be modesty. Let your conscience and your judgment have fair play, and there will then be no desire to outshine your associates in those useless adornments which bring poverty, and not unfrequently mortification and disgrace. I say I love the gentler sex: I love to see them happy; and as wives, mothers, daughters, sisters and friends, lovely and beloved. To be all these, fashion and folly contribute nothing. But the regulation of heart, the habits, the wants and wishes should have reference to something higher, holier, more enduring; and cannot fail to secure, here or hereafter, your happiness—the boon for which all strive, right or wrong.

RETRENCHMENT.

“LIBERALITY OF PHYSICIANS.—It has always been said that physicians would disparage any remedy, however valuable, which they did not originate themselves. This has been disproven by their liberal course towards Dr. J. C. Ayer's preparations. They have adopted them into general use in their practice, which shows a willingness to countenance articles that have intrinsic merits which deserve their attention. This does the learned profession great credit, and effectually contradicts the prevalent erroneous notion that their opposition to proprietary remedies is based in their interest to discard them. We have always had confidence in the honorable motives of our medical men, and are glad to find it sustained by the liberal welcome they accord to such remedies as Ayer's Cherry Pectoral and Cathartic Pills, even though they are not ordered in the books, but are made known to the people through the newspapers.”—*New Orleans Delta*.

Poland Oats.

B. F. Russel writes: "Last Spring I noticed your remarks about Poland Oats. One of my neighbors exhibited a sample of his own raising at our county fair. They were certainly a fine specimen of the grain. He says, from your strictures or remarks on them, he thought he would try them. The result was very satisfactory, so much so that all who saw them growing, and the grain after cleaned, have supplied themselves with seed. They grow a long, stiff straw—as he expresses it, "as stiff as a ramrod," are not liable to fall, of course, which I think a very strong argument in their favor, notwithstanding your opinion to the contrary—the straw, in your opinion, being worthless for fodder from too rank growth. In my estimation, they are a great addition to our varieties of grain, and as long as they sustain their present good qualities, I shall sow no other."

Thirty-four pounds were sown to the acre—about three pecks by measure, the seed weighing 43 pounds the striked bushel. The yield was 27 1-2 bushels per acre. In the same field three bushels yielded 30 bushels per acre.—This has been the poorest season for oats I have any knowledge of. I think one and a half bushels per acre of the Poland Oats would be a proper quantity.

SUGAR BEET.—The same writer says:—There is another 'item' in farming, of which I will give you my experience. Last Spring I planted fifty rods of ground with sugar beet seed. The ground was plowed as deep as the plow would go—say ten inches. Back furrows were turned together three feet apart; the top of the ridge thus formed was levelled down and the seed dropped by hand. Owing to the dry season or carelessness in planting, (it being done by lads too young to exercise much judgment,) about one-third of the seed failed. From the continued dry weather and the scattered appearance they made for a long time, I looked upon them as a failure.—Finally, however, they started and grew finely. I dressed them out three times, once each with the hoe cultivator and plow. The yield was about 225 bushels, equal to 740 bushels to the acre. I knew nothing that all kinds of stock relish so well, with the exception of corn perhaps. I feed them to horses, cattle and

hogs, without cutting up, except what were fed to horses. Store hogs do extremely well on them. For calves I prefer them to any other feed, keeping them in fine order and looking as "sleek as otters." For milch cows they cannot be too highly valued, maturing at a time when fall feed begins to fail, and filling up a gap between that and the cornfield, keeping the cows in good order and causing an abundant flow of good rich milk. There is no more trouble attending the growing of the beets than there is growing corn, except the putting in the seed. They are easily dug, as they grow most of their length out of the ground. My opinion is that every farmer, particularly those who have no tame meadow for fall pasturage, would find the cultivation profitable. I have saved thirty or forty bushels for spring feeding to sheep, and cows that are coming in early.'

The Life of Seeds.

We suppose that almost every person has heard or read the story of some grains of wheat having been found in an Egyptian mummy, which were sown, vegetated and yielded grain after its kind. This case and some others of a rather dubious character have been adduced in evidence of the great vitality and longevity of seeds; but we have now very reliable and practical evidence throwing some discredit on such stories.

The British Scientific Association have, for the past fifteen years, been instituting inquiries and making experiments, through a committee of its members—with various kinds of seeds, of various ages. Their labors tend to show that none of the seeds which were tested although placed in the most favorable circumstances that could be devised, vegetated after the age of 40 years; and only 20 out of 288 species did so, after 20 years, while by far the largest number lost their germinating power in ten years.

It has long been known to agriculturists and florists, that fresh seeds—those of the preceding season—possess the greatest amount of vitality; and very many seeds lose their germinating power altogether, even when kept in dry situations—in the course of two years. In the selection of any kind of seed, care should be exercised in selecting it according to its age, as well as its appearance; the plumpness of a seed, is not always the best sign of its quality for seeding purposes.

Wheat Crop of the United States.

We have carefully examined the facts in regard to the present wheat crop from the different States, and give the following figures as the quantity of wheat gathered in each State this year :—

| States. | Bushels. |
|-----------------------|-------------|
| Maine, - - - | 460,000 |
| New Hampshire, - - | 230,000 |
| Vermont, - - - | 640,000 |
| Massachusetts, - - - | 46,000 |
| Connecticut - - - | 60,000 |
| New York, - - - | 16,200,000 |
| New Jersey, - - - | 1,800,000 |
| Pennsylvania, - - - | 18,250,000 |
| Delaware, - - - | 700,000 |
| Maryland, - - - | 5,100,000 |
| Virginia, - - - | 12,500,000 |
| North Carolina, - - - | 4,200,000 |
| South Carolina, - - - | 2,100,000 |
| Georgia, - - - | 1,750,000 |
| Alabama, - - - | 1,200,000 |
| Mississippi, - - - | 500,000 |
| Texas, - - - | 150,000 |
| Arkansas, - - - | 300,000 |
| Tennessee, - - - | 3,200,000 |
| Kentucky, - - - | 5,750,000 |
| Missouri, - - - | 5,600,000 |
| Illinois, - - - | 14,600,000 |
| Indiana, - - - | 11,250,000 |
| Ohio, - - - | 16,800,000 |
| Michigan, - - - | 5,200,000 |
| Wisconsin, - - - | 8,250,000 |
| Iowa, - - - | 4,100,000 |
| California, - - - | 1,600,000 |
| Total, - - - | 142,536,000 |

We have omitted three States in which wheat is not grown to any extent.—*Cincinnati Price Current.*

IMPROVEMENT IN BLASTING ROCKS.—A mode now adopted in blasting rocks consists in placing the powder or charge within a tube or a case, between two heads provided with a suitable packing, and attached to a rod, by which arrangement the charge is prevented from blowing out, or obtaining vent in the direction of the line of the hole in which the tube and charge are placed, and the whole effect of the charge is exerted against the sides of the tube or case. By this method it is represented

that rocks may be blasted with much greater facility than by the ordinary mode, no tamping or packing of clay being necessary to confine the powder within the hole.

Cows Dying from Eating Hair.

The Valley Farmer, published at Louisville, Ky., states that a singular mortality among the city cows running upon the Common has prevailed in that city in the early part of this winter, the cause of which has been pretty satisfactorily traced to their eating hair that remained in the grass where the hogs' hair from the slaughter-houses had been spread to be washed by rains and dried in the sun. The effect upon the earth, after the hair was removed was to fertilize it and cause the grass to grow luxuriantly, which attracted cattle, and, while cropping the grass, they took in considerable quantities of fine hair, the natural tendency of which is to become felted together and massed into one or more hard balls, which were, in the days of New England witchcraft, called "witch balls," and not a few people at this day believe that such is their origin. These balls sometimes accumulate material until they are bigger than ordinary sized goose-eggs. It is not surprising that death ensues from the irritation of such an indigestible mass in the stomach of an ox or cow, and it is also not surprising that many deaths of cattle cannot be accounted for by their owners; but the certainty that such causes do produce death should act as a caution to cattle owners. Some years ago, the same as that at Louisville killed a number of cows at Terre Haute, Indiana, and, upon opening the stomachs of them, it was found that not only one or two balls had formed, but a mass of them, that nearly filled the whole cavity of the stomach.

AGRICULTURAL LIBRARIES FOR SCHOOLS—A NOBLE BEGINNING.—A movement is made in the N. Y. Assembly, to secure the purchase of good Agricultural works for the public School Libraries of the State. The design is to supply a standard class of such works to all the public libraries, so that the children of the State may be educated in one of the most useful branches of knowledge. The books are to be supplied at a very low rate, so as to make the cost to each School District not exceed 25 dollars. Good Agricultural works would be of more actual service in our school libraries, than are nine-tenths of the books now found upon their shelves.—*Wisconsin Paper*

A New Chinese Potato.

The introduction of new races of plants or vegetables, and the improvement of old ones, is a very important part of our interest as cultivators; and too much praise can scarcely be bestowed on those who make this branch their study. In the pursuit of this object there will always be two parties—those who approve too hastily, and those who condemn on partial evidence. Both are useful to the cause—the one by their enthusiasm directing attention to unnoticed advantages, the other by their hostility repressing that dangerous ardor, which otherwise might again involve us in multicaulis schemes or entanglements.

In offering my experience in the matter of the Chinese yam or potato, I profess to belong to neither of these parties, but to give the facts simply as I observed them.

Last spring I took six tubers each no longer than a small pea, and put them each in a three inch pot with common soil. They were set in a frame with verbenas, and other common things, and treated quite carelessly. Early in June I noticed them as being out two inches high, and turned them out of the pots into a spent hotbed, that had been used early in the spring for raising early cabbage plants. They were left here entirely to themselves sometimes being so dry that the very weeds that were suffered to grow up amongst them withered up and dwindled away. I scarcely ever thought it worth while to look at them; having suffered myself to look upon its introduction as a humbug soon to die out. The vines, as may be guessed, grew but very little—not, I believe, exceeding eighteen inches on the arrival of frost—when they were dug up.

I was certainly surprised to find, instead of the little peas, which had rotted away, roots six inches long, and as thick as my thumb, which, I must tell the reader, is by no means beneath the average size of thumbs generally.

I could not help feeling that a root that in five months had increased one hundred fold, and at least some claim to attention! I determined to sacrifice one root, to satisfy myself of its value as an esculent. I may here observe that I am fortunate in being able to enjoy well cooked potatoes: but whether this fact has anything to do with making my experience differ from those who find the quality of the Chinese potato “be-

low par,” I cannot say but certain it is, that in my own opinion, and that of my whole family, I never ate a potato, either “sweet” or “Hibernian” with greater enjoyment.

By this careless trial, I have arrived at two facts—first, that it is an agreeable esculent—secondly, that it is capable of reproducing itself a hundred fold. This is no more than a carrot, turnip, or any other root is capable of doing; but it serves to place it on the same footing as these useful vegetables.

The only question left to my mind is, whether it will pay to grow them. That will depend greatly on their market value. They grow so peculiarly that it will probably cost more to grow and dig an acre of them, than it would any other kind of root, as they penetrate the soil deeply, and grow thicker as they get down. But little, comparatively nothing, is yet known of the best modes of cultivating the plant; and it is quite probable that as this is discovered, it will be found far less laborious to raise than it now does. However, be that as it may, your correspondent does not feel that he can say any thing positive of its value further. It is his intention still to experiment, and he would recommend his readers to do so likewise, as they get opportunity.—*Farm Journal*.

AN INTERESTING FACT.—The recent investigations of Prof. Wray, chemist to the Royal Agricultural Society of England, have brought out a curious fact, which may throw light upon the *rationale* of some important practices in agriculture. Rain water contains ammonia and nitric acid, and it is from these two substances that the nitrogen of plants is obtained. A series of examinations of the water discharged from underdrains, show that it contains less ammonia and more nitric acid than rain water.—Rain water filtering through the soil, then, parts with its ammonia, but dissolves out nitric acid from the soil or manures. How is nitric acid formed in the soil? Probably, says, Prof. Wray, from the oxydation of nitrogenous manures; and he recommends a more perfect admixture of manures with the soil as the most likely means to prevent the formation of nitric acid, and the loss of nitrogen from leaching. It appears to us, too, that if the manure was thoroughly decomposed before applying it to the land, it would not only be easier to mix it ultimately with the soil, but there would be less nitric acid formed, and consequently less loss.—*Genesee Farmer*.

Rotation with Peas for a Tobacco Farm.

A subscriber at Nashville, N. C., inquires as follows: "I am at this time very much interested on the subject of a proper division of the farm, and rotation of crops, and wish your opinion on the following, viz; first year all the manure to be applied to land, to be planted in tobacco, and after the tobacco is off, sowed to wheat with guano or its equivalent. 2d year, after the wheat is off, sow it with peas at the rate of two bushels per acre, to be plowed under after the first frost. 3d year, sowed in peas broadcast to be fed first to hogs and then plowed under; and the 4th year, planted in corn and at the last working, sowed broadcast with peas, to commence again with manure for tobacco."

We say in reply to our friend, that such a rotation with the manuring he proposes, is sufficiently liberal as regards his land, and will no doubt pay him in crops, and improve the condition of his land. But we think it may be made less costly, without losing any of its benefits. First as to seed, the quantity per acre for the rotation would be six bushels. It might not be an object on a North Carolina farm, to economise in this respect, but few comparatively within the range of our circulation could use this quantity of seed at less cost than six dollars. There are some advantages in using as much as two bushels of seed per acre when intended for a wheat fallow. We get more growth of stem in a limited time, and more downward growth of root, and there is comparatively little running vine to impede the ploughing. On the other hand one bushel of seed makes a good covering, runs more to vine and makes more seed, and with time enough for the crop to mature well, and for grazing in part, we should use little more than this quantity.

Then our correspondent proposes six ploughings, makings, making a great deal of extra work, and much more than farmers or planters can devote to such a purpose. We think the ploughing under of the vine should be dispensed with. Let it be well matured, and then let the stock trample it close to the surface and the land will have the full benefit of it.— We have suggested several times methods of economising labor in putting in the pea crop,

which we hope our friends will bear in mind.

We would say to our N. Carolina friend, that if his soil is not very light, and is in pretty good condition, as it must be to produce tobacco, we think he would find a crop of clover sown in February or March on his wheat, a more economical improver than the pea cover. The labor would be but a single harrowing and rolling, and the cost of seed not more than a single sowing of peas. He may still sow peas when his corn is laid by. His rotation is not objectionable. The tobacco comes well after corn, with the intervening crop of peas, and finds the ground in such a state of preparation, that it takes an early and quick growth. The tobacco crop makes a beautiful preparation for wheat; leaving the ground perfectly clean and well worked, and getting out of the way in time for seeding.— *American Farmer.*

From the Southern Cultivator.

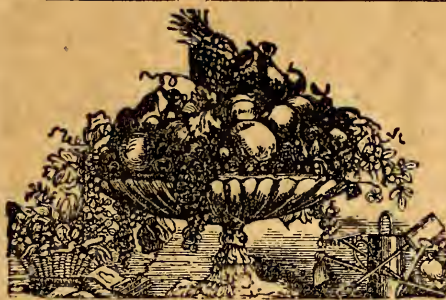
Chinese Sugar Cane in Texas.

A subscriber, (E. B.) writes us from Gonzales, Texas, as follows:

I have tried the Chinese Sugar Cane here and find it an important acquisition to our agricultural resources. It stands drouth better than any other plant that I am acquainted with. It seems admirably adapted to our climate here. Its introduction into this country must produce an entire revolution in our rural operations. Its culture will supercede that of Indian corn and other forage crops to a considerable extent, and the monopoly of sugar will no longer be restricted to the State of Louisiana; it will afford ample opportunity of raising poultry, making butter, cheese, pork, lard and bacon, and be the means of producing a quantity of manure where that is needed. I doubt whether it will answer as well on poor land as has been represented by some writers; except, probably when sown broadcast for forage. I find it easily affected by frost. In every other respect the accounts which I have seen are entirely within the bounds of truth.

I planted the Sorgho on the 14th of April, plowed it once and subsoiled and hoed once. We had no rain after the 13th of May. The grain matured about the middle of July and produced at the rate of 50 bushels to the acre as to the land planted, but from depredations of bugs and poultry there was not half a stand. After the grain was gathered the stock was burned in the field and I had no opportunity of ascertaining what a second crop would have produced. The stubble is now green, the sprouts have been destroyed from time to time as they have appeared by stock, and recently by the frosts.

E. B.



Horticultural.

Which are the Best Roses.

BY ROBERT BUIST, PHIL.

The above question is very frequently proposed, and is much more concise than any reply that can be given. We would say that there are none supremely beautiful, if they are not abundantly supplied with free soil, well incorporated with very rich material, such as decayed leaves, old, decayed manure from the piggery or barnyard; or where there is a deficiency of these, rich water, twice a week, must be applied. "What is rich water?"—There arises another question. If you will not consider me too tedious, I will give you in detail how it is manufactured. I have a half cask, containing about 30 gallons of water, into which I put 6 lbs. of guano, half a bushel of horse droppings, or a peck of chicken manure; either of these, just as convenient suggests, I allow the portion selected to remain in the tub 24 hours, when it is stirred up, and from which I give my select plants a copious watering twice a week from May till the middle of June. The soil round the plants must be frequently stirred, and kept clean, and properly cared for, neatly tied up, and, when in bloom, shaded from sunshine. Such is the treatment bestowed upon the finer and rarer sorts.

We are confident that there are 700 varieties cultivated in the United States, and we are also confident that 100 would embrace every color among them, placing entirely in the shade many of the so-called new sorts. Permit me to hand you for publication a few from each section of the perpetual or semi-perpetual blooming varieties.

Remontant, or Hybrid Perpetua Roses.

Auguste Mie; a fine, glossy pink; a new and exquisite rose, of perfect form.

Baron Prevost; bright rose, large size; strong growth.

Baron Halley; redish purple, very perfect; globe shape.

Géant des Batailles; brilliant scarlet crimson, an abundant bloomer; all qualities good.

Jules Margottin; bright crimson, a companion to the former; a new and magnificent rose.

Lion of combats; crimson purple, large, compact form; very fragrant.

Louise Peyronny; bright pink; finer than La Reine.

Marquis Bocuella; the most abundant bloomer; of a light blush color.

Madam Fremoin; bright carmine; fine form.

Madam Rivers; pale silver blush; very perfect cup shape.

Queen Victoria; very large, blush white, tinted with pink; a magnificent flower.

Pius the 9th; deep purple crimson; a strong grower, and profuse bloomer.

Wm. Griffiths; rosy lilac, very large, cup form, quite distinct; a noble flower.

Tea Scented Roses

Adam; flesh color, very large, cup form.

Devoniensis; lemon white, tinted with pink, very fragrant, and often called the Magnolia Rose.

Gloire de Dijon; very large, buff color, quite new, was sent out as a fine yellow, because every person wants a yellow monthly rose.

Goubault; bright rose, tinted with blush, very fine.

Julie Mansais; lemon white, with yellow centre.

Laurette; salmon, tinted with rose, large and fine, quite new.

Madame Bravery; pure white, a good grower and fine bloomer.

Safrano; buds, before being fully opened, are of the most beautiful apicot color, very desirable.

Souvenir d'n Amue; rosy pink, very large, handsome form, and one of the grandest of roses.

Vicomtesse de Cazes; yellow, with salmon centre, a very delicate grower.

Willermoz; creamy with salmon centre, a new and beautiful rose.

Noisette Roses.

Amie Vibert; pure white, a very delicate grower.

Cloth of Gold; pale straw color, with yellow centre, a noble rose, of exquisite odor, and strong growth.

Fellenberg; red, changing, in the autumn, to bright crimson, very profuse.

Isabella Gray, bright yellow, very highly scented, a new rose, from the "Sunny South."

Jaune des prez; yellow and buff, tinted with rose, of spicy fragrance and free growth.

Lamarque; lemon white, very large and splendid.

Ophirie; salmon and orange, a vigorous grower, with fine, dark green, glossy foliage.

Octavie; bright red, a rare variety.

Phillipart; peach blossom color, small flower, in large clusters, a strong and hardy rose.

Triumph de la duchere; pale rose, blooming in large clusters, very profuse,

Bengal, or Daily Roses.

Arch Duc Charles; large; rose changing to crimson.

Agrippina; perfect globular shape; brilliant crimson.

Cels; blush, pink centre; a very profuse bloomer.

Jacques Plantier; shaded rosy crimson.

Lady Warrender; pure white.

Louis Philippe; globular; crimson with paler centre.

Lucullus; vivid dark crimson.

Madame Breon; bright, waxy rose, large and fine; a very strong grower.

President d'Oibecque; cherry-red; fine form; very profuse.

Bourbon Roses.

Acadalie; the only rose that is nearly white amongst the Bourbons.

Apolline; pink; surpasses the Hermosa in form and clearness of color.

Bouquet de Flore; bright rosy carmine; a very strong grower.

Henry Clay; bright carmine; very large flower, though not a perfect form.

Louise Odier; bright rose; beautiful cup shape.

Queen; fawn color; a profuse bloomer, but not a very free grower.

Sir Jos. Paxton; very bright rose; strong growth; as yet, very rare.

Souvenir d'Anseleme; bright red; a strong grower.

Souvenir de Malmaison; pale blush, the largest and finest of this group.

Vorace; deep purple crimson.—*Horticulturist.*

From the Southern Cultivator.

The Grape Crop of 1856.

We have received, says the Journal of Commerce, the following statement from one of the most eminent vine growers of the Ohio valley. His remarks with reference to the vintage of this year, and especially the adaptation of our Southern States to grape growing, will be read with interest:

The grape crop in the Ohio valley this year was a very small one—probably not more than an average of 80 to 100 gallons to the acre.—The severe winter injured many of the vineyards seriously. Some of the vines were killed down to the ground, and about half the buds in others were destroyed. The "rot" or mildew also injured some of the vineyards much. But a bad season with the grape, like other fruits must be expected to occur occasionally. Our experience thus far has proved that the grape is about as reliable a crop as the apple, and perhaps more so.

A fair average crop for a series of years is found to be 260 to 300 gallons to the acre, in well cultivated vineyards in the Ohio valley. The cost of producing this crop will not exceed \$50 to \$60 per acre, and less with proper economy. We plant the vines usually 3 by 6 feet apart in the rows, and an acre will contain 2,52 vines. Warm hill sides, or the tops of hills, are generally selected for vineyards.—Any undulating land is preferable to level, as it affords better drainage. The grape wants porous soil, with good under-drainage. A tenacious, wet subsoil, or blue clay, or hard pan, will cause mildew and rot after the fourth or fifth year, and should be avoided.

This cultivation is largely on the increase all over the west and southwest, wherever the conditions are supposed to be favorable, and the consumption of the wine is fully equal to the production.

Thirteen years ago, when the writer commenced planting, the price of wine was lower than it is now. It was also inferior in quality to that made since, and but little known. Now the character of our native wines is well established, and those who have acquired a taste for them will use no others. Their cheapness and their purity have helped to introduce them into general use in some sections of the country, and the failure of the grape crops in Eu-

ed in every aspect—moral and economical—our native wines may be considered a most valuable addition to the agricultural products of our country.

It is now estimated that there is in vineyard culture over 4000 acres in the Ohio valley.—About half this quantity is in the vicinity of Cincinnati, and probably three-fourths are now bearing. In the Missouri Valley there are 700 to 800 acres: and in the Upper Mississippi Valley 500 to 600 acres.

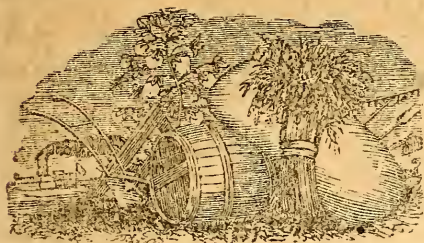
In Tennessee, Alabama, South Carolina and Georgia, several vineyards of the Catawba grape have lately been planted, with flattering prospects producing far better crops than those of the Ohio Valley. How they will hold out, has yet to be tested. The mildew and rot, our great enemies in vineyard culture, seldom trouble the first two or three crops, but I have little doubt that the uplands of North Carolina and Georgia will be found more favorable to the cultivation of the Catawba grape than any section of the United States.

The Hyacinth.

There is hardly a flower in cultivation so generally a favorite as the hyacinth, and certainly not one which so gratefully repays the attention bestowed upon it. There is not a medium capable of retaining moisture but it will grow in, and give us as good a bloom when planted in wet sand as it will in the richest compost. Many people ought to be thankful for this spring visitor, from those whose delicate hands put the finish to the beautiful stands which grace the drawing room, to the salamander-like men who, in a heat that would broil a steak, blow the thousands of glasses employed to grow them in water. There is not a smoky hole in the most confined manufacturing town in which the hyacinth will not bloom, if allowed moisture of some kind in which to lengthen its silvery roots. If we calculated by the means required for its growth, instead of the price of the root, it might truly be called the poor man's flower. There is scarcely an individual who is permitted to live in daylight, but may indulge himself with two or three, if he be fond of flowers and they will afford gratification till the bloom is over. Let everybody who can raise three flower-pots, or three hyacinth glasses, buy a bulb of each color, and they will have flowers—ay, if they grow them in a smoky attic, or a still more smoky kitchen.—*Horticulturist*.

The Culture of the Osage Orange.

Messrs. Editors of the Post:—Some time since I noticed an inquiry in the Post, regarding the culture of the Osage Orange for Hedges. I will give my plan and experience in regard to the culture of the Orange for hedging purposes. After my plants are taken from the nursery, I bunch them as evenly as possible, take them to a block, and cut off the tops, leaving only two or three buds. I then reverse the branch and cut off the lower end of the roots, leaving the remaining roots four inches long; I then puddle them, by digging a hole in the ground, pouring in one or two buckets of water, and make a very thin mortar, into which I dip the butts. This keeps the roots moist while planting. A week or so before planting, I lay out my land the length I want, and ten feet wide, throwing the furrow out. When I get ready to plant, I plough it again, throwing the furrow in, and harrowing effectually, (I believe rolling the ground is an advantage, though I sometimes omit it). I am now ready for planting. To stake out my hedgeline, I take a line, the longer the better, with red yarn tied every four, five or eight inches—I would recommend five inches. I drop a plant at every red strip; take a dibble (made in the shape of a dagger,) and make a prod with my right hand, holding the plant in my left. As I draw the dibble out, I drop in the plant, make another prod, and press together; thus I plant my hedges. I consider it all important to have the first setting stand, as replanting seldom does any good. The second year I commence clipping—first, before it leafs in the spring, say an inch above where it was cut when set; second in June, an inch and-a-half above the first cutting; third, in the fall, two inches above second cutting. The third year I cut in June, four inches higher than third cutting, and trim up the sides. Thus I go on until my hedge is thick enough. In conclusion, I would state that one half of those in the West, who have attempted to make a live fence with the Orange have failed, not through any fault of the plant, but of their own, in not clipping enough. Nothing but thorough tending with plough and hoe (as long as you plough your corn) and severe clipping can make a fence to turn anything. From a quail to a breachy steer. There are some beautiful hedges in this county, which, by-the-bye, I must say is the very best county in this very best of States.—Mark that, ye who move a crop of stones to raise a crop of grain, and spend your income in Guano! Yours, R. H. DAY.
Mercer Countg, Ill.



THE CAROLINA CULTIVATOR.

RALEIGH, MARCH, 1857.

A New Volume.

The present number of the *Cultivator* commences a new volume. This is, therefore, a good time to subscribe. Will not all our subscribers who are in arrears for the past year send the small amount due, and also one dollar for the present volume? We again urge our farmers to write for the *Cultivator*. Let us have your experience.

Chinese Sugar Cane Seed.

The Editor of the *Carolina Cultivator* has received from the Commissioner of the Patent Office a quantity of the Chinese Sugar Cane seed, to be distributed to members of the State Agricultural Society. Members of the Society can be supplied with the seed upon application to the Editor of the *Cultivator* as long as the seed lasts.

For two three-cent postage stamps enough seed can be sent by mail to plant 175 hills, allowing eight seeds to a hill.

Stump Machines.

We have long felt the necessity of the introduction into our State of a good machine for pulling stumps. We have seen in several papers notices of a Stump Puller, invented by W. W. Willis, of Orange, Mass., and called the "ORANGE IMPROVED STUMP PULLER." The following notice is taken from the *Northern Sentinel*:

"A WORD ABOUT STUMPS.—I am glad to see evidence, that here and there a farmer is "stirring his stumps." I have just seen the ex-

ploits of Mr. Willis's Stump Extractor, at Orange, Mass., where he has begun to manufacture the article on a large scale.

Well worked, I am told, it will turn out a lusty stump each ten minutes, hour by hour. This machine is much needed, even in New England, and still more in the Middle, Western and Southern States. It has made many fields lawn-like and beautiful, in and around Orange, and if brought into requisition, it can do the same from Maine to Georgia. The cost is something, but not frightful. A good machine, with the exclusive right to use it in any one town in the Union, costs \$150 or \$200, no more. This is less than the price of a piano, less than the price of the gold watch, with "fixins," which dangle from the pocket of many a fob!

I think, Mr. Willis, the Patentec, a benefactor; his Patent will make rough places smooth, make two, yes, ten thousand spears of grass grow where but one grew before, and prove an element in the great process of civilization."—*Northern Sentinel*.

EXCHANGES.—Since our last notice we have received the *Eclectic Magazine* for March. It is embellished with a fine engraving of the late Hugh Miller, of Edinburg, and contains a number of interesting articles. The *Southern Literary Messenger* for the same month, is an excellent number. A new song by the author of "Ben Bolt," appears in its pages, full of that poetic feeling which distinguishes Thos. Dunn English. *Godey* for April shines forth in vernal beauty. It is rich in all its customary variety of attractions. *Peterson*, also for April, is devoted as usual to the fashionable world.

PUTNAM, for April presents a tempting table of contents. There is of course much boldness, flippancy, and impertinence in its pages—much smart satire, indifferent philosophy, and radical sectional politics.

HOUSEHOLD WORDS, for April is also before us—a promising number of one of the most entertaining periodicals in the world. In reference to slavery it is worse than Putnam; but that might be expected. When these magazines are witty, we may laugh at their wit—and when they are absurd, we may laugh at their folly.

THE CHINESE SUGAR CANE—SUGAR MAKING.
—This is the title of a pamphlet of 106 pages by Charles F. Stansbury, A. M., late commissioner at the Industrial Exhibition, London, published by C. M. Saxton & Co., of New York, sent to us by Mr. W. L. Pomeroy of this city—price 25c. It contains full directions for the cultivation of the Chinese Sugar Cane and for making Syrup and Sugar, and will prove very valuable to those who intend to cultivate this plant. Orders for the work sent to Mr. W. L. Pomeroy, Bookseller, Raleigh, will be promptly attended to.

Miscellaneous.

Legislative Agricultural Society. *Discussion on the Chinese Sugar Cane.*

Those gentlemen—members of the Legislature—favorable to the scheme of re-establishing the Legislative Agricultural Society, met in the Representatives' Hall, Tuesday night at 7 o'clock, at which hour only half a dozen were present. The meeting was called to order at 20 minutes past 7, by Hon. John Brooks of Princeton. He considered it proper that an organization should take place, and that committees on organization and on subjects of discussion should be appointed as usual. About 40 members were then present.

Mr. Stebbins of Deerfield, nominated Hon. John Brooks, of Princeton, for Chairman, pro tem., and put the question, when that gentleman was elected. Messrs. W. J. Buckminister, of the *Mass. Ploughman*, and Aaron Dickinson, of Heath, were appointed Secretaries.

A committee to nominate Chairman for the evening, and an Executive Committee, to act during the whole session, consisted of Messrs. Hyde, of Newton, Stebbins, of Deerfield, Chas. L. Flint, of Boston, Asa G. Sheldon, of Wilmington, and Stephen P. Collin, of Longmeadow.

Mr. Brooks made a brief congratulatory address on taking the chair, on the thriving state of the farming interest generally. Within the State, within the last ten years, the increase of agricultural productions had risen from twenty six to sixty-three millions in value. With proper care this increase could yet be doubled,

and the resources of the soil not yet called into request. He invited gentlemen to state their agricultural experience, and specially called on Mr. Hyde, of Newton, to relate what success he had in cultivating the Chinese sugar cane.

Mr. Hyde, after glancing at the *morus multi-caulis* and other agricultural bubbles, said he entered on the cultivation of the Chinese Sugar Cane with much doubt as to its ultimate benefits. These he had tested, and could speak from experience. As a forage crop he considered it superior to anything known in this portion of the country. It has the advantage of many other plants in its production of two crops per annum—the last not a full one, but a very liberal one. It would grow to three or four feet in height in July, and be again ready to cut in October. For soiling purposes nothing could be more generally valuable, as horses, cows and pigs were alike fond of it, and selected it always in preference to any other food that could be placed before them. It was easily cured, and could be as easily preserved over winter as any common forage crop—although it grew to the height of ten or fifteen feet. It was very hardy; and while other crops would wilt beneath the strong sun, it stood up fresh and juicy. It did not produce a nice looking fodder; but if cut into pieces, cattle would eat it with avidity. Some cattle would seize upon a long, rough stalk, and chew it so long as they could feel the taste of the saccharine matter in it. In order that it should constitute good fodder, the cane should be cut before it is seeded. If planted in drills (1-12 pounds of seed to an acre, and the stalk 5 or 6 inches apart,) it would grow too rank. Care should be taken not to plant the seed too deep, or make the hills too close.

Mr. Hyde had tried the cane for sugar, and had found it to yield one-fifth of its weight in syrup, much better than that which came from the South—of better quality and heavier. His experiments showed him that syrup could be produced at the rate of 25 cents per gallon, on land like that in Newton. A portion of the syrup was not crystalizable, and this was held as an objection to it; but while the fact was so, it was also true that the Chinese cane would produce a good brown sugar. He was determined to give the production of sugar a fair trial, and had confidence of his being successful; and one of his proposed plans was to

cut off the seed panicles before they begin to ripen, and he had little doubt that by this process he would save a considerable amount of saccharine matter. If planted in the middle of May, the cane would be ready to cut about the middle of September. While he would not advise any one to go into an extravagant system of cultivation, he would advise all farmers to try it in their gardens and their fields, and one trial would go farther to convince them of the value of the sugar cane than any advice whatever.

Several gentlemen made inquiry of Mr. Hyde respecting the method of the cultivation of the cane. He advised that it be killed like corn, when it was intended to use the cane for sugar, and drill it in rows when intended for fodder. A dry soil was the most favorable for its production. He thought it might be an exhausting crop; and that it would not be hurt by being planted on good soil. It stood heat, as he said before, and was also able to bear up against frost. The seed he had used was got from the Patent Office, and came from France, where the best seed came. It was had originally from China. The pure seed was of a black color (at least such as he considered pure.) There was a quantity to be had of Col. Peters, of Atlanta, Ga., and this was pure; but it might be that seeds from Paris, where the rest came might not be so genuine. The price was about one dollar per pound; and the charge of three dollars per pound, made in this city, was suggested by certain parties who wanted to combine against the purchasers. Seed, he thought, could be grown for a shilling per lb. But with all these facts, he advised the greatest caution in making experiments and in drawing conclusions.

Several gentleman made observations on the subject of conversation, only one of whom, in any shape, controverted the statements made by Mr. Hyde. That was with reference to its superiority as a forage plant. The party in question says he has seen as heavy a forage of Indian corn as of Chinese cane. He sustained all Mr. Hyde's statements in other respects, and added to them the fact that, after the juice was expressed from the cane its fibrous part made excellent paper. He advised, among other cautionary and wise remarks, that, in all instances the seed used here should be imported as there were a number of inferior descriptions,

and as the liability of the plant to hybridize was great, and that all experiments in making sugar should be made through the use of the old fashioned cider mill, which would suit, until they had fairly satisfied themselves that the manufacture from the Chinese sugar cane would be profitable. The cane was rich in the constituents of alcohol.

New Fertilizer—Important to Farmers.

To the Editors of the American Farmer :

*Gentlemen :—*In the last number of your valuable journal, you allude to the movement now making for establishing manufactories of artificial guano from the blood and offals of animals, treated with sulphuric acid, and mixed with phosphate of lime—thus obtaining, without any extraneous matter, such as gravel, earth, &c., all the valuable components of the best Peruvian Guano, in a purer and more concentrated form.

Having expressed an intention of making inquiries with a view to inform your readers further on the subject, I take the liberty of offering you the following information. being myself the principal share holder in the American patent :

A Mr. Odam, manufacturing chemist in England, patented there, some five years ago, the treatment of the blood of animals with sulphuric and other acids, which were found to suspend all the elements of putrefaction and hold the dried matter ready for decomposition when brought in contact with the elements of the soil. He mixed his nitrogenous matter, so obtained, with phosphate of lime which act'd upon by the sulphuric acid, formed a nitrogenous super-phosphate of the most powerful kind.

Mr. Odam manufactured and sold the first year 5000 tons of this material. It gave universal satisfaction, surpassing Peruvian guano in its effects, whenever placed in competition with it.

The result was, such an overwhelming demand for it the following year, as quite surpassed Mr. Odam's means. He then formed a Company upon the direction of which he succeeded in placing many farmers; thus securing the entire confidence of the agriculturists, who knew themselves to be perfectly safe in such hands.

Mr. Jonas Webb, the most eminent sheep breeder in the world, (as well known in this country as in England,) and who grows five hundred acres of sweet turnips yearly for his own consumption, was elected Chairman of the Company and remains so still. They paid the patentee ten thousand pounds sterling for an exclusive license to work his patent, as appears by the official account published under the joint stock act, and paid him a royalty of two shillings per ton upon all the manure thus made. Their fertilizer was applied last year to upwards of one hundred and fifty thousand acres of land.

Myself an agriculturist, farming 800 acres of my own land in Scotland, I tried, and was much surprised at the effects of this manure, so far exceeding in its results those of guano.

I subsequently made an arrangement with Mr. Odam, to patent his process in this country. On applying for a patent here, I was unable to procure one in consequence of Dr. Hare of Philadelphia, having patented, two years before the date of Mr. Odam's patent, the treatment of the "*soft parts*" of animals with sulphuric or other acids or with "coperas or other salts."

Both Mr. Odam and Dr. Hare disclaim the treatment of bones, or the hard parts of animals with acids, but one claims for treating the "blood," the other for treating the "*soft parts*."

After taking the opinions of the best counsel in the country, and being advised that Dr. Hare's was a perfectly good and valid patent which could not be disturbed, I found myself constrained to make an arrangement with Dr. Hare, which I accomplished, obtaining from him an assignment of his patent. I am led to understand that certain parties are now manufacturing a manure in which blood and sulphuric acid are used, but I have not, as yet, direct evidence of the fact; such a manufacture is in violation of Dr. Hare's patent, and renders the sellers, the consumers, and the manufacturers equally liable for damages.

It is the intention of the patentees to create four Companies only, for manufacturing in the United States, one in New York, one in Baltimore, one in Philadelphia, and one in Boston. The city of Boston will furnish 30,000 tons of blood and offal per annum; the city of Philadelphia will furnish 60,000 tons annually; I am not aware of what we may calculate upon

in New York and Baltimore. I have the certificates of Dr. Hayes of Boston, and of Professors Booth and Frazier, of Philadelphia, which appear in the prospectus of the Philadelphia Company, which I enclose.

I proceed in a few days to New York, after I organize a Company there, I shall visit Baltimore for the same purpose; our manure will be sold at 45 dollars per ton of 2000 lbs.

Although myself from England, my family are Americans. My father being a New Bedford man, and my mother from Nantucket my name may be unknown to you as the brother of Mr. Francis Rotch of Morris (formerly called Butternuts of New York State,) who was one of the earliest, if not the first importer of short horned stock in America.

I have undertaken the introduction of this manure into the United States, satisfied of its superiority over all other artificial manures; from experiments, made by myself, and the observation of five years' trial in England, I believe it will effect highly beneficially sanitary results in your large towns and prove a great boon to your agriculturists, and a very profitable investment to the manufacturer. As you will see by the accompanying prospectus, in order to meet the present state of the money market, the smallest possible amount of capital will be called for in Philadelphia, and sufficient merely to make and introduce it next season, to a small extent, which is all that time will admit of. Wherever it is once introduced it will advertise itself.

I shall be happy to furnish you any further particulars, and am,

Your most obedient servant,

THOS. D. ROTCH.

RAISING CATTLE—RAISING MULES.—James E. Kendall, of Poplar Grove, Kanawha county, Va., states that the cost of raising cattle in those mountain ranges is about \$3 a year.—They are worth \$18 to \$20 at four years old. Mules, however, are raised at as little expense as steers, and are worth from \$100 to \$150 a head at three years old.

John B. Brush, of Mercer county, Penn., reports the cost of raising cattle at that place till three years old, it is \$15, which is about the price of good ones at that age.

John Brooks, of Sherman, Texas, states the cost of one dollar and a half a year till three years old—*Patent Office Report*.

Remedy for Rot in Grapes.

At a recent meeting of the American Wine Growers' Association, in Cincinnati, the following communication was read from Mr. Werk, on the subject of Grape Rot:

Allow me to explain to you the trials I have made in this country, in the cultivation of the grape, during the last eleven years, and my intentions for the future in regard to the rot. It is a remarkable fact that vines never fail, in this country, in their flowering period; at least, I never have witnessed it. They hang as full of grapes as they can every year. The favorable flowering of the vines, in the greatest part of the old country, generally is the barometer of an abundant crop, and if the flowering of the vines is a failure, the crop, of course, is a failure—the enemy there and the rot here. The quality there depends alone on the dry, warm summer, to bring the grapes to maturity, which is never the case here, (if the vines are not overladen with fruit,) on account of the season being too long. But this rot is the only main destroyer of our grapes.

Professor Liebig, in his complete books of Chemistry, speaks of the observations of Dr. Halez on the blight in hops and other plants (pages 39, 40,) who states that the development of the growth of plants depends on the supply of nourishment and moisture from the soil, which is determined by a certain temperature and dryness of the atmosphere. The absorbent power of plants, the motion of their sap, depends on evaporation; the amount of food necessary for the nutrition which is absorbed, is proportional to the amount of moisture given out (evaporation) in a given time. When the plant has taken up a maximum of moisture, and the evaporation is suppressed by low temperature or by continued wet weather, the supply of food, the nutrition of the plant ceases, the juices stagnate and are altered. They now pass into a state in which they become a fertile soil for microscopic plants. When rain falls after hot weather, and is followed by great heat without wind, so that every part of the plant is surrounded by an atmosphere saturated with moisture, the cooling due to farther evaporation ceases, and the plants are destroyed by "fire blast" or scorching (sonner brand,) "sun burnt or sun blight."

Now, if these remarks are well founded, and

I do believe they are, then we will be nearer to our point of preventing our grapes from rotting, in avoiding too rapid growth in the fore part of the season. We have been cultivating our vineyards in the same manner as they do in the greatest portion of the vine countries of Europe. We hoe and dig them three or four times, at least twice in a season, and by so much cultivation in such rich and fertile soil and climate, we urge the vines in their growth, keep the soil moist, and procure for the plant too much nourishment in the soil, call forward in the loose cultivated soil, the influence of the atmosphere, and in this way have our plants fairly prepared for the approach of our enemy, with which we are all very well acquainted—cold, fog, and warm moist atmosphere—so that by the appearance of one or the other of these enemies, our grapes rot, and often from one-half to three-fourths are gone in twenty-four hours. As the superabundance of moisture is taken up and the evaporation suppressed, it of course leaves the enemy a greater chance for his ravages. This is not the case so much in the greatest portion of the vine countries of Europe, as the soil and climate is not so rich and fertile as here, and of course frequent hoeing and higher culture is necessary to obtain from the soil the substance by provoking the influence of atmospheres to the soil.

The largest portion of us vine growers have often noticed that about the time the rot appears, wine plants of a yellowish pale color alongside of other vines with a dark green healthy color, both fruit and leaves remain healthy and sound, whilst the dark green and healthy-colored fruit are partly destroyed, and the leaves have lost their healthy appearance after the attack of the enemies, cold and fog, or a warm moist atmosphere. The cause of this is admirably explained in the remarks of Dr. Halez in his observations on plants in general. I dug down to the roots of many pale and also dark green colored vines, after the rot had made its appearance, and without exception, I found the pale colored in a harder soil and generally on places where the water could run off easily; the reverse was the case in the dark green colored plants.

Eleven years ago I planted my first vineyard in this country, in a timothy field of eleven acres. I had learned the cause of the rot from other experienced wine growers, they

remarking that the fog and the wet summers were the cause of the rot, and this led me to think that if the plants were far apart and the soil covered with other vegetations, the fog and the wet summers would not have the same effect, as the soil keeps dry under the grass. The rains falling in the morning, during which the rot prevails, will run off in part, and what is absorbed by the soil will soon be taken up by the grass.

The result of this was, I made the first crop in this vine and timothy field, without any rot in 1850, and so every year in succession, until '54, but in the spring of '54 my timothy ran out. I plowed the field, and that year the greatest portion of my crop was destroyed by the rot in spite of the wide planting. By plowing, of course I urged the vegetation and made the soil more fertile, and retained the moisture of this already rich soil, and prepared my fruit for destruction by the enemy.

One of my vineyards was not hoed for two years, only scraped to keep the grass down, planted three by six feet apart; the vines are laid dry by drawing the soil to the plants as we do in a potato or cornfield, so that the water can run off.

The result of this was, I obtained in the year "near seven hundred gallons of wine," and in the year '56 about five hundred gallons to the acre, while in the same year, in vineyards alongside, of the same age, and on the same exposure, only one hundred to one hundred and fifty gallons to the acre was obtained.

Last summer was a very dry summer, but our grapes rotted. By the observations of Dr. Holey we can easily account for this. The winter of '55 and '56 was very cold, and the soil was frozen from one to two feet deep. The whole continent was covered with snow one or two feet deep. The result of this was a late Spring—the soil enriched by the snow and loosened by the frost, caused such a luxuriant vegetation at once, that in four weeks we had flowers and grapes formed; the vine plants were met in the highest and richest state of vegetation, with a cold night at first, and two warm rains followed, with great heat in second and third; the rot we had last season, and the mischief was done. This was the reverse in 1853, as the winter of '52 and '53 was mild and dry, and the spring of '53, with the fore part of the summer, dry and warm, the growth

was regular and less rapid, and the consequence was a rich grape year.

According to all this, I came to the conclusion to lay my vineyards dry, summer and winter, not cultivate them in the spring, except to scrape them, to keep the grass down, summer prune, and with all those planted wide enough apart to admit of it, I will roll with a path roller as soon as the frost is out of the ground, to prevent the absorption of rains and atmospheric moisture, to check the growth in part; but in the fall, as soon as the kernels are formed, and the fruit begins to change color, at this moment we know that all plants want all their nourishment to ripen their fruit and wood, a period of growth of which we are all aware there is no more danger of the rot—then I will set plow and hoe to work. My experience of last year, in a vineyard cultivated at the change of color of the fruit, is this: Catawba must, of this part of the vineyard, weighed 98 degrees, and the Isabella 101 degrees, while the must of another part of the same vineyard, and of the same exposure not cultivated in the autumn, the Catawba must weighed 92 degrees, and the Isabella 90 degrees on the saccarometer.

It seems to me that any means we can discover to check the growth of vegetation in the early part of the season, will be a help to conquer the enemy, the rot, be it by the reverse of culture—that is, cultivate in the fall when the grapes change color—press the ground in the spring to check the absorption of atmospheric moisture in part, or by any means we can imagine, check the too luxuriant vegetation in the spring and first part of summer, a step will be taken toward the production of grapes instead of wood, and perhaps will enable us to plant many European kinds of vines in this rich and fertile climate, as for them the too rich and rapid vegetation, with too long a season, is destruction.—*Ohio Cultivator*.

Best time for Pruning.

Messrs. Editors—The inquiry made by E. Dennison at page 31 of this volume, "Which is the best time to trim?" is—(as of course we must suppose he means by "trim," "prune,")—a very usual interrogatory to the pomologist. He will find, when he owns many fruit trees, that the best time to prune is when he has

most leisure, and whenever he has his knife in his hand. In the Spring and summer the wounds will begin to cicatrize quickest; but pruning cannot then be so rapidly performed, owing to the mass of foliage and to the difficulty of arriving at a decision what to cut away, as rapidly as can be reached in the season when leaves have fallen. I would recommend never to saw off a limb at right angles, but obliquely. It promotes a quicker covering of the incised surface by the young bark.

Let me suggest as a substitute for shellac dissolved in alcohol, as a protecting coat, a mixture that I have found very adhesive and efficacious:—Fresh cow manure and clay, with an egg or two and some molasses thrown in; the whole reduced to the consistency of thick paste or thin mortar, and applied with a small trowel or a knife with a very broad blade.—The shellac solution is undoubtedly the cleanest and most convenient to apply, but shellac is not always at hand in the country. E. L. R. Baltimore, Md.—*Country Gentleman*.

Culture of Celery.

The principal difficulty in raising large and well bleached celery is to get the plants early, and sufficiently stocky. This is best accomplished by sowing them early in the Spring in a hot bed, and when an inch high, transplanting them into a cold frame, and afterwards transplanting them into a warm border where they can remain till the trenches are ready for them. This will seem more labor than most people are willing to bestow, but frequent transplanting is the only way to get strong, healthy plants that will receive little check when planted in the trenches during our hot June and July weather.

In making the trenches the soil should be thrown out at least two feet deep, and twelve inches wide at the bottom; the first six inches being placed on one side, so that it be used for covering the manure. Good leaf compost, or "spit manure," as the London gardeners say, from old hot beds, or what is still better, the liquid and solid droppings from a manure cellar well composted with thoroughly decomposed peat should be put at the bottom of the trench about sixteen inches thick, and covered with about six inches of rich, light surface soil. Let the plants be well watered 24 hours

before transplanting, and take them up with a ball of earth round the roots, and they will receive little or no check. Good super-phosphate of lime either in solution or mixed with the soil before transplanting, has a very beneficial effect, in giving the celery an early start. We have also used with great advantage Peruvian guano, applied in a weak solution, say a teaspoonful to two gallons of water. Celery is a gross feeder, and revels in ammoniacal manures, and the well decomposed organic matter or humus of dung, leaves, peat, &c.—The soil should be kept constantly stirred till the plants have got a good start, and it is not well to be in too much hurry to commence earthing up.

It is indeed a disputed point whether it is best to earth up at several times during the season as the plants grow, or to do it at once, when they have nearly done growing, late in the fall. We have always adopted the former practice, and have had good success; and, on this account, are inclined to recommend it. In earthing up, care should be taken that the soil does not get between the stalks, and it is not well to press it too tightly round the plants at first.

In England, celery is allowed to remain in the ground all winter; but from the greater severity of our winters, it is better, here, at the North at least, to take it up after it has done growing, and stow it away in the cellar.—*Country Gentleman*.

Compost for Potatoes.

A correspondent of the *Country Gentleman* recommends Mr. Durant to try

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| 100 pounds of best Peruvian guano, |
| 200 " " ground plaster, |
| 25 " " ground salt, |

passed together in small quantities at a time, through a fine riddle, so as to mix them as intimately as possible—and use about half a gill to a hill of potatoes, covered lightly—say not to exceed three inches—and see what the effect will be. Some little experience has convinced him that it will keep off disease, and furnish a crop of excellent vegetables, both as regards size and flavor. If he had an opportunity to repeat the experiment himself, he would increase the quantity of salt to fifty pounds.

Cutting Fodder for Stock.

For many years we have used a straw-cutter for preparing food for our horses, but a less time for neat stock. I think we have realized the greatest benefit from giving cut hay or straw and ground provender to our farm or work horses. When the team comes in weary and hungry after a hard day's work, instead of standing up half the night cutting hay and grinding whole corn, (I believe all who are acquainted with feeding and driving horses admit that it is unhealthy to give meal in any considerable quantity with long hay,) it can eat its mess of cut fodder and meal, well mixed and moistened with water, in a couple of hours, and have the remainder of the night for rest and sleep. In the morning a similar mess is put before the horses and soon disposed of; and, as they take but little drink when fed in this way, they are in trim, good condition, well rested, and all ready early in the morning for another day's work. Unlike the horse who has stood at his crib more than half of the night and morning, hard at work, cutting his hay and grinding his corn, requiring buckets full of water to wet the dry mess with which his stomach is crammed. In this condition the team is harnessed, and if put immediately to hard labor, (as the cut fed team is prepared for,) will soon be injured, and ere long ruined.

Our trough (made of pine boards) for mixing feed for three horses, is 6 feet long, 2½ wide and 2 feet high. Put the hay in and sprinkle about half a bucket of water for each horse, and stir well with a light, fine tined fork, before putting on the meal, as well as after, that the whole may be evenly mixed.

Care must be taken that the trough and cribs are kept clean, particularly in warm weather, as a little left in them will sour and injure the health of the animal.

A little fine salt, used daily, preserves health, especially in warm weather. Four quarts of cut carrots are frequently fed to each horse at noon, with very little hay and meal.

We feed meal made from corn, corn and cobs, (ground fine) barley, oats and peas, vetches, wheat bran and shorts, and buckwheat. All do well, and are fed as we happen to have on hand or can procure the easiest. There is a strong prejudice with many, against barley for horses. Before cut feed came into use with us

barley was mostly given as provender to our horses. * Boiling water was put to it 12 or 24 hours before feeding. Barley meal with cut hay is wholesome, and has been the cheapest grain for Provender, until within a year or two—the *beer-drinkers* having raised the price.

Another advantage in cut feed is, when hay is scarce, the coarsest straw of grain, cut and fed with meal, with or without a mixture of hay, will keep a team at one half or less the cost of hay and grain. The man, (a careful and observing one too,) who drives my team this winter, and has driven it much of the time for fifteen years past, is decided in the opinion, that in the use of cut feed over long, there is a saving of more than 33 per cent. in expense of keeping increase in health, strength, and power of endurance at hard labor.

This may be considered an extravagant statement to those unacquainted with feeding in this way, but I think any candid mind will come to the conclusion that this is not far from the truth, on a brief review of the question.—Thus the animal has several hours more each day for rest and sleep. Food prepared in this way is in best condition for the stomach to act upon as to rapid digestion, and the nutriment, when extracted, is ready to be taken by the blood to every part of the body, imparting strength for immediate action.

Quite different from this is the condition of the horse for hard service that has taken double the quantity—as he usually will—of dry hay, then grain or meal, lying in a compact lump in the stomach, with three or four pails of water to complete the distension of the stomach to its utmost capacity, which is nearly twice as large as that of the horse on cut feed.

Cut food is a preventive or cure for heaves. Some ten years since, a friend of mine had a fine young horse that was attacked with the heaves so badly as to be almost useless for works. The owner put him on cut feed, which very soon restored his wind. From that time to the present, he has been in constant service, and few are the roadsters that can beat him on the road.

But visible or tangible facts are stronger proof than all the conclusions or arguments that can be drawn from such a head and pen as mine. I will mention one, and have done with this part of the subject. In 1855, I gave away to a friend whom I knew would treat

kindly and had but little to do, one of our team horses, 24 years old, that had been fifteen years in our service, and much of the time in very hard labor. He was a kind-tempered, but very high-spirited animal, and what he found to do he did with all his might. (I mention this fact that it may not be said he lived to a good old age through laziness.) This horse was sound in wind, and smooth in every joint and limb, and as spirited and active as a colt when he left us. I recently heard from him carrying a good load over the hills of Bangor and back. "by daylight," a distance of 25 miles out and in.

For hay, we use one of Rugles & Nourse's machines, with spiral knives, set in cylindrical form, and cutting upon another of green h. de. For corn fodder and straw, for cattle, one (I do not know the name of the inventor) with cast iron cylinders with open slaughts to let the cut fodder go free which is preferable to the first mentioned, for this work.

Cut fodder is fed dry to our cattle, (as we seldom feed any meal,) with wurtzels or ruta bagas and is usually eaten up clean, with the exception of the coarser part of the corn butts. Some of the dry seasons just past, when our hay crop was short, and we did not like to reduce our stock we had recourse to mixing straw with hay even late in the Spring, with a little meal in addition to roots. They never left the barn in better condition, and with very much saving of expense.

We have never given cut fodder to our flock of sheep, as we have hand cutters only, and it would take more time than we can spare, from the help we employ.

My friend, W. D. Dana, of Perry, Washington county, informs me that Edmund Lincoln, of Dennyville, favorably known to the public for his extensive farm, well arranged buildings, and good management, has his large flock fed with cut feed, to good profit. The flock is kept in the basement of a large building, the hay above, where it is cut and fed down into cribs; and the whole arrangement is so constructed as not to chaff the wool, or in any way disturb them.

M. TABER.

Vassalboro' 1st mo., 14th.

Remember that the wheel of Providence is always in motion, and the spoke that is uppermost will be under, when its time comes.

Receipts.

Making Vinegar.—The cheapest mode of making vinegar is to mix five quarts of warm rain-water with two quarts of Orleans molasses, and four quarts of yeast. In a few weeks you will have the best vinegar you ever saw.

To get rid of House Ants.—The best way to get rid of ants is to set a quantity of cracked walnuts, or shell barks, on plates, and put them in a closet where the ants congregate.—They are very fond of these, and will collect in them in myriads. When they have collected in them, make a general *auto-da-fe*, by turning nuts and ants together into the fire, and then replace the plates with fresh nuts. After they have become so thinned off as to cease collecting on plates, powder some gum camphor and put it in the holes and crevices; whereupon the remainder will speedily vamose. It may help the process of getting them to assemble on the shell barks, to remove all edibles out of their way for a time.

To preserve Flowers in Water.—Mix a little carbonate of soda with the water, and it will preserve flowers for a fortnight, but the water in flower pots should be changed every day in Summer, or it will become offensive and unhealthy, even if there is salt in them.

MESSRS. EDITORS:—I send you two receipts which are recommended by a lady whose judgment cannot be questioned. They are excellent and the pudding simple and *homely* enough to accord with the spirit and *name* of your paper, and will doubtless be valued by some frugal housewife, during these days when a few eggs are an almost unattainable luxury. I have thought you somewhat captious in your demand for particulars in receipts, but to please you will give the exact "modus operandi."

Philadelphia Loaf Cake.—One pound and a half of flour: half a pound of butter; three-fourths of a pound of sugar; half a pint of milk one and a half teaspoonfuls of soda; three teaspoonfuls of cream of tartar. Rub the cream of tartar thoroughly into the flour; then rub the butter and sugar together, adding the milk in which the soda should be dissolved one glass of wine; one nutmeg; rose water and three eggs which should be well beaten. Mix all quickly into the flour and bake immediately.

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Yellow and Honey Locust Seeds, and all other kinds
of seeds.

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SANDS' SARSAPARILLA,

IN QUART BOTTLES,

FOR PURIFYING THE BLOOD,

AND FOR THE CURE OF

Scurfula, Rheumatism, Stubborn Ulcers, Dyspepsia, Salt Rheum, Fever Sores, Erysipelas, Pimples, Boils, Mercurial Diseases, Cutaneous Eruptions, Liver Complaint, Bronchitis, Consumption, Female Complaints, Loss of Appetite, General Debility, &c.

TO RELIEVE SUFFERING has been the object of the humane and philanthropic of all ages.—Before the practice of medicine became a science, the sick were publicly exposed in the open air, and every passer-by named the remedy he considered most suitable for the complaint. We possess at the present day, through the agency of the press, a more reliable mode of conveying information to our suffering fellow creatures. Those afflicted with Scurfula, Cutaneous or Eruptive Diseases, will find in the columns of almost every newspaper and periodical published, certificates and testimonials from those who have been speedily cured of these dreadful complaints by the purifying and powerfully regenerative qualities of Sands' Sarsaparilla.

ASTONISHING CURE.

PATERSON, N. Y.

Messrs A. B. & D. Sands: Gentlemen:—Having witnessed the most beneficial effects from the use of your SARSAPARILLA, it gives me pleasure to send you the following statement in regard to my son. In the Spring, he took a severe cold, and after eight weeks of severe suffering the disease settled in his left leg and foot, which swelled to the utmost. The swelling was lanced by his physician, and discharged most profusely. After that, no less than eleven Ulcers formed on the leg and foot at one time. We had five different physicians, but none relieved him much; and the last winter found him so emaciated and low that he was unable to leave his bed, suffering the most excruciating pain. During this time the bone had become so much affected, that piece after piece came out, of which he has now more than twenty-five preserved in a bottle, varying from one half to one and a half inches in length. We had given up all hopes of his recovery, but at this time we were induced to try your SARSAPARILLA, and with its use his health and appetite began immediately to improve, and so rapid was the change that less than a dozen bottles effected a perfect cure.

With gratitude, I remain truly yours,
DARIUS BALLARD.

We, the undersigned, neighbors of Mr. Ballard, cheerfully subscribe to the facts of the above statement.

H. & R. S. HYATT,
GEO. T. DEAN,
A. M. TOWNSEND,
C. EASTWOOD

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N. B.—BOOKBINDING done, in all its various forms, with neatness and dispatch.

GARDEN-SEEDS.—To be had at the North Carolina Bookstore, Garden-Seed, warranted fresh and good, crop of 1855, selected from the most approved Seedsmen and Gardeners in the Northern Country.

February, 1855.

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FARMER'S HALL

RALEIGH, N. C.

The subscriber is general agent for the sale of Agricultural Implements and Farming utensils, Field seeds, Fertilizers, &c. &c. Almost all the articles brought to the late Fair are kept on sale and are offered at manufacturers prices with no cost of transportation, as they were brought free by the Railroad.

There is also a new fire proof Ware House on the lot, in which all articles on consignment are stored. The following are some of the articles brought to the late Fair: Horse Powers, Wheel Fans, Corn Drills, Field Rollers, Corn and Cob Crushers, Harrows, Cultivators, and Plows of every size and description.

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ARE still carrying on the BOOK BINDING business in all its branches at the old stand over "Turner's N. C. Bookstore."

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Books sent to them from any part of the State, with directions, will be bound in any style desired, boxed and sent back without delay. Address

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Brookville, Granville Co., N. C.

June 18, 1856.

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Orleans and Coffee Sugars, various grades, Loaf, Crushed, Granulated and Powdered Sugars, Lagunita, Rio and Old Government Java Coffee.

Orleans and West India Molasses.

Pure Cider Vinegar.

Sperm, Adamantine and Tallow Candles.

Soaps, Fancy and Brown.

Sole Leather, good and damaged.

All sizes Flat, Round, Square Swedes,

American Hammered,

English Refined,

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Broad Plough Iron, 6 to 12 inch.

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Particular attention given to the sale of Wheat, Flour and Country Produce generally.

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Brookville, Granville Co. N. C.

June 16, 1856.

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CELEBRATED

GERMAN BITTERS.

PREPARED BY

DR. C. M. JACKSON PHILADELPHIA PA.

WILL EFFECTUALLY CURE

LIVER COMPLAINT, DYSPEPSIA, JAUNDICE,

Chronic or Nervous Debility, Disease of the Kidneys, and all diseases arising from a Disordered Liver or Stomach.

Such

as Consumption,

Inward Piles,

Fulness or Blood to the

Head, Acidity of the stomach,

Nausea, Heartburn, Disgust for food.

Fulness or Weight in the Stomach, Sour Eructations, Sinking or Fluttering at the pit of the stomach,

Synching of the Head, Hurried and difficult Breathing, Fluttering at the Heart, Choking

or suffocating sensations when in a lying posture.

Dimness of vision, Dots or webs before

the sight, Fever and Dull Pain in the

Head, Deficiency of Perspiration,

Yellowness of the skin and eyes,

Pain in the Side, Back, Chest,

Limbs, &c., Sudden flushes

of Heat, Burning in

the Flesh, Constant

imaginings of evil,

and great depression of

Spirits.

The proprietor in calling the attention of the public to this preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the diseases for which it is recommended.

It is no new untried article but one that has stood the test of a ten years' trial before the American people, and its reputation and sale is unrivaled by any similar preparations extant. The testimony in its favor given by the most prominent and well known Physicians and individuals in all parts of the country is immense, and a careful perusal of the Almanac published annually by the proprietor, and to be had gratis of any of his agents, cannot but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained.

Principal Office and Manufactory No. 95 Arch St Philadelphia, Pa.

TESTIMONY FROM N. CAROLINA.

ASTONISHING EFFECTS FROM THE GERMAN BITTERS.

Certificate of Dr W. SMITH, of Pine Hill, Richmond Co., N. C., March 4, 1854

Dr. C. M. Jackson, Philadelphia.—Dear Sir,—I have been a subject of Dyspepsia in its worst form,

for the last five years. Such was my condition for 12 months that the physicians and all who saw me said I must die. While in this condition, I was carried to the watering places in Virginia, Tennessee and North Carolina, but was not benefited by any water to which I was taken. While on my way home, I stopped a week at Rutherfordton, a small village in N. Carolina to try the effect of some Chalybeate water in that place. About the last of the week I went into a drug store to get some medicine for my child at myself. There were several of the village physicians in the store, and one of them seemed to take some interest in my case, and after asking me some questions, said he had been a dyspeptic, and had been greatly benefited by the use of "Dr. Hoofland's German Bitters," prepared by you, and he insisted that I should try the Bitters. He also called the next day at my room, and insisted so much that I would try them, that I asked him to get me one bottle. He did it, and I commenced taking it as directed, and I do say I was more benefited by it than all the water and medicine I had ever taken.

After reaching home, one of my neighbors came to me for a prescription and medicine, (the a dyspeptic,) and I gave him nearly all the Bitters I had left; which effected a very good in his case. He has often called on me for more of the same kind of medicine, saying he was more benefited by it than any other he had taken, but I have not been able to get any more for him or myself since; will you, therefore, please ship me a dozen or more as soon as possible.

Respectfully yours,

W. SMITH, M. D.

GREAT CURE OF PILES.

Certificate of W. J. ATWOOD, Huntsville, Yorkin Co., N. C., Nov. 1, 1853.

Dr. C. M. Jackson—Dear Sir,—Allow me to express to you my sincere thanks for your discovery of a medicine, which, to say the least of it, has effected a cure that all other medicines that I have taken have entirely failed to do. "Hoofland's German Bitters," have cured me of the most stubborn and aggravated case of the PILES that, perhaps, ever fell to the lot of man. My case is not a stranger to this community, as I am well known in this and the surrounding countries, and can truly say that my recovery has astonished all my friends and relations, as I had tried everything recommended, and nothing did me any good until I was prevailed upon to try the Bitters. You are at liberty to make any use of this communication, for the benefit of the afflicted, as you may think proper.

Truly yours,

W. M. T. ATWOOD.

These Bitters are entirely vegetable, possessing great advantage over every mineral preparation, as they never prostrate, but always strengthen the system.

Price 75c. per bottle. Sold by Druggists and Stereographers in every town and village in the United States and Canada and by

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November 1856.

Raleigh.

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THE 30th session of this school will commence on the 3d of January next, prepared to give thorough instruction in all the branches of female education. Pupils received at any time. All charges from time of entrance.

Terms per Session:

Board, washing, lights and fuel in rooms, \$60 00

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Music on Piano, Guitar, Melodeon, with use

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December, 1855.

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

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Sole Agent for the United States.

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Has now become the standard preparation for the HAIR. Its immense sale, nearly

 1,000,000 
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Per year, attests its excellence and great superiority over all other articles of the kind. The ladies universally pronounce the
KATHAIRON

To be, by far, the finest and most agreeable article they ever used. It RESTORES the Hair after it has fallen out; INVIGORATES and BEAUTIFIES it, giving to it a rich glossy appearance, and imparts a *delightful perfume*. Sold by all dealers throughout the United States, Canada, Mexico, Cuba and South America, for
25 Cents per Bottle.

HEATH, WYNKOOP & CO., PROPRIETORS,
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Manufacturers, also, of Perfumery of all kinds, and in great variety. 6m.

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THE subscriber hereby informs the Planters, Farmers and Gardeners of the United States, that he has obtained from R. PETERS, Esq., of this city, the control of his crop of Seed of this valuable plant, some of the properties of which may be briefly summed up as follows:—

First ---An acre of Stalks properly cultivated, will yield from 400 to 500 gallons of pure Syrup, equal to the best New Orleans.

Second ---It surpasses all other plants for fodder and for feeding green to cattle or hogs, on account of the great abundance of sugary juice which it contains; and, sown in close drills, will yield from thirty to fifty thousand pounds of superior Green Fodder to the acre.

Third ---It is so certain and prolific a crop that Planters may be sure of succeeding with it as a syrup plant anywhere south of the State of New York.

This seed, which has been carefully kept pure, is now offered in cloth packages, each containing enough to plant half an acre 4 feet x 1-2 feet, will be furnished by mail at one dollar and thirty cents each, or at one dollar if sent by express, freight unpaid.

Dealers in Seeds and country merchants, or per-

sons wishing to plant by the quantity, can be supplied at a liberal discount from retail rates.

A pamphlet containing a full description of this plant its history, valuable properties, and a plate of the horse-mill used for crushing, will be furnished by mail to all applicants.

Address, with plain directions for mailing or shipping.

W. P. ORME,

Nov 7, 1856.

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R. H. BATTLE, Secretary.

NORTH CAROLINA**MUTUAL INSURANCE COMPANY**

AT THE ANNUAL MEETING OF THE North Carolina Mutual Insurance Company, held on the 9th inst. the following persons were elected Directors and Officers for the ensuing year:

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| H. S. Smith, <i>Sec'y and Treas.</i> | |
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| John R. Williams, | |
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This Company has been in successful operation for more than 7 years, and continues to take risks upon all classes of property in the State, (except Steam Mills and Turpentine Distilleries,) upon favorable terms. Its Policies now cover property amounting to \$4,500,000, a large portion of which is in Country risks; and its present capital is nearly Seven Hundred Thousand Dollars, in bonds properly secured.

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AYER'S PILLS.

A new and singularly successful remedy for the cure of all Bilious diseases—Costiveness, Indigestion, Jaundice, Dropsy, Rheumatism, Fevers, Gout, Hiccups, Nervousness, Irritability, Inflammations, Headache, Pains in the Breast, Side, Back, and Limbs, Female Complaints, &c., &c. Indeed, very few are the diseases in which a Purgative Medicine is not more or less required, and much sickness and suffering might be prevented, if a harmless but effectual Cathartic were more freely used. No person can feel well while a costive habit of body prevails; besides it soon generates serious and often fatal diseases, which might have been avoided by the timely and judicious use of a good purgative. This is alike true of Colds, Feverish symptoms, and Bilious derangements. They all tend to become or produce the deep seated and formidable distempers which load the bowels all over the land. Hence a reliable family physic is of the first importance to the public health, and this Pill has been perfected with consummate skill to meet that demand. An extensive trial of its virtues by Physicians, Professors, and Patients, has shown results surpassing any thing hitherto known of any medicine. Cures have been effected beyond belief, were they not substantiated by persons of such exalted position and characters to forbid the suspicion of untruth.

Among the many eminent gentlemen who have testified in favor of these Pills, we may mention:

DR. A. A. HAYES, Analytical Chemist, of Boston, and State Assayer of Massachusetts, whose high professional character is endorsed by the

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Also, DR. J. R. CILTON, Practical Chemist, of New York City, endorsed by

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Did space permit, we could give many hundred certificates, from all parts where the Pills have been used, but evidence even more convincing than the experience of eminent public men is found in their effects upon trial.

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As it is frequently expeditious that my medicine should be taken under the counsel of an attending Physician, and as he could not properly judge of a remedy without knowing its composition, I have supplied the accurate Formulae by which both my Pectoral and Pills are made to the whole body of Practitioners in the United States and British American Provinces. If, however, there should be any one who has not received them, they will be promptly forwarded by mail to his address.]

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Nothing at the State Fair displayed greater excellence in any department than the Piano-Forte manufactured by Horace Waters, of this city.—*Churchman*.

The following is taken from the "Christian Inquirer": "The finest among the many pianos at the Crystal Palace are those placed there by Horace Waters, whose instruments are always popular."

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"Mr. Waters has been long established and is favorably known. We speak from experience, when we assure our readers that his prices are below those usually charged for articles in his line."—*Jacksonian N. J.*

"Your instruments are a sensible improvement upon American Pianos, and on honor to the skillful manufacturer. There is no doubt but they will be appreciated by the public and all admirers of true merit."—*Oscar Comtant*.

"I take great pleasure in pronouncing them instruments of a superior quality both in tone and touch."—*August Gockle*.

For power of tone, depth of bass, and brilliancy of treble, together with accuracy of touch, they are equal to any make I am acquainted with, and I cordially recommend them to those wishing to purchase.—*V. A. Taylor*.

"Our friends will find at Mr. Waters' store the very best assortment of music and of pianos to be found in the United States, and we urge our southern and western friends to give him a call whenever they go to New York."—*Graham's Magazine*.

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There is one which, for beauty of finish and richness and brilliancy of tone, equals, if it does not excel, anything of the kind we have ever seen. It is from the establishment of Horace Waters. Being constructed of the best and most thoroughly seasoned material, and upon improved principles, it is capable of resisting the action of the climate, and of standing a long time in tune.—*Savannah Georgian, Savannah, Ga.*

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COOKE'S NEW MAP OF NORTH CAROLINA, NOW READY FOR DELIVERY.

THIS Large and Beautiful MAP of North Carolina is now ready for delivery. It is one of the best engraved maps that has ever been published of any State in the Union, and is sold at the low price of Eight Dollars.

No Maps will be sold except by subscription. Agents will be found in most of the counties of the State, or persons desiring a copy of the Map can send their names directly to "Wm. D. Cooke, Raleigh, N. C."

AGENTS WANTED.

A number of counties in the State are yet unengaged. Persons wishing to canvass for the Map will be furnished with the terms, &c., upon application to the undersigned.

Agents are also wanted for South Carolina and Virginia. The Map includes Virginia as far north as Richmond, and South Carolina as far south as the junction of the Congaree and Wateree rivers.

TO EDITORS.

Editors in this State, who, having advertised the Map for six months, are entitled to a copy, will please communicate the fact to the undersigned, that their copies may be forwarded by first opportunity.

W. D. COOKE,

Raleigh, N. C.

Report of Professors Emmons and Mitchell, to the North Carolina State Ag. Soc., on COOKE'S NEW MAP OF NORTH CAROLINA.

I have had frequent opportunities of testing the correctness of Mr. Cooke's new Map of North Carolina, and parts of the adjoining States. This Map is worthy of special notice: 1st, from the fact that it embraces those parts of Virginia, South Carolina and Tennessee which are of immediate interest to the citizens of this State. 2d, that the eastern part of the State is compiled from data obtained through the determinations of the Coast Survey. 3d, it contains an entirely new feature in its *profile* extending along the line of the Railroad survey from Goldsboro' to Asheville, which exhibits the heights of many interesting points, as well through the central and western parts of the State lying east of the mountains as amongst the Mountains themselves.

In addition to the foregoing it may be justly said that Mr. Cooke has taken unwearied pains to correct the geography of the different counties, and to insert the prevalent names of places, those for instance which have come into use since new lines of travel have been established. It is in fact a New Map, and the only map which can be relied upon for accuracy in its details. It moreover merits commendation for the artistical skill displayed in its execution, its typography being beautiful and distinct.

EBENEZER EMMONS, State Geologist.

In the encomium passed by Prof. Emmons, upon Mr. Cooke's new Map, I fully concur. The particulars mentioned by him are of first rate importance and interest. Most of the maps of the State, heretofore published, have furnished few, if any, indications of the position of any point within our own limits, with regard to the States, north, south, or west of us. This evil has now a remedy. In noticing the map, the very efficient and important aid, in its construction, so fully afforded by Prof. A. D. Bache, Superintendent of the United States Coast Survey, and by Col. Gwynn, having the management of the Survey of a railroad, carried over the Blue Ridge into the valley of the French Broad, should not be passed in silence. Only the portion of the map representing the eastern part of the State has been submitted to my inspection, but to this I presume, the rest will be made to correspond.

University of N. C., October 21, 1856.

E. MITCHELL.

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May, 1856.

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Devoted to Agriculture, Horticulture, and the Mechanic Arts.

WILLIAM D. COOKE, Editor, and Publisher.

VOL. 3.

RALEIGH, N. C., APRIL, 1857.

NO. 2.

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Miscellaneous.

Domestic Animals.

Influences of the change of soil or climate on Animals, and of the variation of their food.

BY D. J. BROWNE.

Of the domestic quadrupeds which man transports to every part of the habitable globe, and subjects to various kinds of management, both in regard to heat and cold, moisture and dryness, as well as to labor and nourishment, it cannot be denied that considerable changes are manifested in their form, contour, size, color, and secretions; but these, in general, are merely superficial, the animals being greater or less in bulk, with longer or shorter

limbs and horns, or even an entire absence of the latter, having a larger or smaller mass of fat on the shoulder or rump, or being covered with a coat of finer, coarser, thicker, or thinner hair, down or wool; still, these differences, when proper care is taken to prevent crossing, usually continue for a long period in those races or breeds that have been transported to countries remote from those in which they were originally produced. They also depend upon determinate circumstances, and their extent increases or diminishes in proportion to the intensity of the causes which occasion them.

Upon these principles it has been observed that the most superficial characteristics are the most variable. Thus, color depends much upon light; thickness of hair or wool, upon heat or cold; and size, form, or the secretion of milk, upon the scarcity, abundance, or quality of food. It is not to be understood, however, that these variations constitute the differences in the races or varieties of our domestic breeds, but that they have long existed with similar forms and habits as at present, either acquired and accumulated through a series of generations, which, in the course of time, have become hereditary, or that they have ever retained their original and typical castes from their earliest progenitors.

In respect to the effects produced by the change of food and climate on our domestic animals, I would cite the instance of the horse:

given in the Agricultural Report of the Patent Office for 1854. If the London "Dray" be conveyed to Arabia and subjected to the same influences as the native horses of that country are exposed, in the course of a few generations, he will present the leading characteristics of the Arabian horse. The head will gradually diminish in size, the limbs will become fine and clear, the massive proportions of the whole body will disappear, and not only will the external form of the native be acquired, but, aside from this, something also of the chivalrous disposition or spirit. Again, if the race thus improved be conveyed back to the central or northern parts of Europe, it will gradually deteriorate, and, in the course of some generations, will assume all its original proportions. These facts would tend to prove that the Arabian horse cannot long exist in perfection in the cool, humid climate of Britain; and the influences arising indirectly from that cause are regarded as the principal reasons of the change. It has also been ascertained that the large coach horses of Leicestershire, in England, when carried to some parts of Yorkshire, where the pasturage is more sparse, degenerate and become small; and that the "Pad" and saddle horses of the last named county, when brought to Leicestershire to breed, change into a fleshy animal with large heavy limbs.

There is also another class of interesting facts connected with this subject. If sheep are carried from either of the temperate zones to the burning plains of the tropics, after a few years, material changes take place in their covering. The wool of the lambs, at first, grows similar to that in the temperate climates, but rather more slowly. When in a fit state for shearing, there is nothing remarkable about its quality, and, when shorn, it grows out again as with us; but, if the proper time for shearing be allowed to pass by, the wool becomes somewhat thicker, falls off in patches, and leaves underneath, a short, close, shining hair, exactly like that of the goat in the same climate, and wherever this hair once appears there is never any return of wool. Numerous facts of a similar nature have also been observed in other animals. For instance, in the Cashmere goats which have been brought down from the mountains of Thibet to Kanoor, in British India, where the mean annual

temperature is but 66 deg. F., the down, or under-vest, of their wool, that grows in colder climates directly under their fine, long, silky hair, wholly disappears the first year.

In pursuing the subject still further, it may be stated, that the horned cattle originally taken to the Pampas, beyond Buenos Ayres, by the earliest Spanish settlers, have undergone a most singular modification of the bones of the head, consisting of a shortening of those of the nose together with the upper jaw. This race, or breed, called *niata*, externally appear to hold a similar relation to other cattle as the bull-dog does to other dogs, their foreheads being very short and broad, with the nasal end turned up, and the upper lip much drawn back; the lower jaw projects beyond the upper, and has a corresponding upward curve, in consequence of which the teeth are always exposed to view. From their very open and high-seated nostrils, short heads, and protuberant eyes, when standing or walking, they assume a most ludicrous, self-confident air. It may further be remarked, that their hinder legs are rather long, when compared with the foremost ones, which adds to their awkwardness, by bringing their heads near to the ground.

It is also a notable fact, that cattle reared for several generations on rich soils, as those in the West Riding in Yorkshire, in England, become very large and fat, and are distinguished by the shortness of their limbs, while, in drier or colder situations, their whole bulk is less, and their legs are more muscular and strong, which powerfully verifies the truth of the axiom in breeding that, "Good cattle are coincident with good soil," and are never found as a race on a bad one, as is manifested on the Isle of Skye, on the west coast of Scotland, where the cows, when exposed to the rigors of winter, are often reduced to mere skeletons in the spring, many of them not being able to rise from the ground without help, but recover as the season becomes more favorable to the production of grass. Then they acquire new flesh, which is both tender and sweet. The fat and lean are not so much separated in them as in the beef reared further south, but interlarded, as it were, which renders the meat very agreeable to the taste.

In New Granada, and other inter-tropical countries, the cow also undergoes another re-

markable physical change: she furnishes a supply of milk no longer than the period her calf is running by her side; when it ceases to suck, the milk immediately dries up. This, doubtless, is owing in a great degree to the high temperature of her blood and the increased flow of perspiration, which are generally manifested in all cattle of the warmer portions of the torrid zone.

In arriving at the more immediate object of this paper, I would offer a few observations on the character of some of the internal and external structures of the organs of animals, chiefly those of ruminants, in order to arrive at a knowledge of them as indications of their capacity for fattening and reaching an early maturity. Let it first be stated that the chief utility of rumination, as applicable to all the animals in which it takes place, and the final purpose of this wonderfully complicated function in the animal economy, are still imperfectly known. Whatever may be our ignorance of its object or cause, it is certain that the nature of the food has a considerable influence in augmenting or diminishing the necessity for the performance of that function.—Thus, dry food requires to be entirely subjected to a second mastication before it can pass into the third and fourth stomachs, while a great portion of that which is moist and succulent, passes readily into those cavities on its first descent into the second stomach. It may here be remarked that in the young calf, and also in the lamb, we find the fourth stomach considerably the largest, being fully developed, while the other three are but imperfectly so. This arises from the fact of the nutriment on which the young animal subsists (its mother's milk) being in so matured a state as to require comparatively but little exertion for the organs of digestion. The other three stomachs, therefore, are not required until the young ruminant begins to crop the crude herbage or to feed upon dry fcedler or hay, when the digestive apparatus gradually becomes developed.

When a calf or lamb commences feeding upon solid food, then it begins to ruminate; and, as the quantity of solid aliment is increased, so does the size of the first stomach increase until it attains its full dimensions. In the latter case, the first stomach has become considerably larger than the other three cavities taken together.

A knowledge of the above-named facts has taught the intelligent breeder that care must be taken to feed the calf at first with the milk of its own dam, which, at the time of its birth, is of a peculiar character, and acts as a gentle purge, indispensable to its health at this critical period, but which would be hurtful at a later stage of its growth. In order to preserve its thriftiness and health, it should have an abundance of new milk, warm from the cow for the first two or three weeks, after which it may be gradually trained to eat more substantial or solid aliment, alternately with new milk, sweet clover hay, Indian meal, or the best grass the farm can afford, until completely weaned. If fed entirely upon milk, until the time of weaning, it is obvious that the fourth stomach of the calf would be unable to receive and perfectly digest the recently swallowed herbage or hay, without its having previously undergone the process of rumination; and that each of the other three stomachs would be quite as unprepared to perform its part. Hence, if a calf be suddenly changed from a diet consisting purely of milk to one wholly of grass or hay, a suspension of healthy functions must necessarily take place, which will ever after more or less affect its successful growth.—While on this subject, it may be stated that there is a great diversity in the milk of cows, which is increased by many circumstances, such as her age, the condition she is in, the proximity or remoteness of the time of her calving, and, above all, the manner in which she is fed. It frequently happens that, of cows, not only of the same breed, but even those which are the offspring of the same parents, fed on the same farm, and in the same manner, the one will yield more milk than the others. Cows too old or too young also give less milk than those of middle age. A lean cow never gives so much milk as one in good condition. Cows generally give more milk for a few weeks after they have calved than they do at any other time. The food with which they are fed has a powerful influence on the milking properties of all cows; and the mode in which they are reared has a considerable effect on their capacity to give milk. A cow reared on bad or indifferent pasture and scanty subsistence will never turn out so good a milker as one reared on pasturage which is sweet and rich. From these and other circumstances,

it is not easy to determine the average quantity of milk given by a herd of cows.

The health of an animal depends chiefly on the supply of nutriment which it receives being equal to the waste that is going on in its body. Healthy adults weigh as much at the end as at the beginning of the year; and this depends on their having had sufficient food to supply the waste which has been going on in the system. In young and growing animals, it is somewhat different.—They require a larger supply of nourishment than there is waste, because their bodies are constantly increasing in size, which arises chiefly from the activity of their birth. Milk, the food that nature supplies them with at this period, is well adapted to assist the functions of organic life, which are now more active than in adults. Its chief ingredients are nitrogenized matter, (casein,) and phosphates, for developing the system, and carbonised materials, (butter and sugar,) for supplying animal heat. The casein, or cheesy matter, is the nitrogenous principle, and affords nourishment to the muscular and other tissues; the phosphates principally are expended in the formation of hair and bones, and are also necessary for the healthy functions of the body; and the butter and sugar are the materials, which, by their combustion, supply heat to the body. Thus, in milk, we have all that is necessary for the growth of the young animal, and it is the type and representative of all food; for, unless an aliment contains the principles of milk, it is not fitted for the promotion of the health and perfect development of the body. And, besides, the stomachs of young animals are not adapted for extracting the nitrogenous principles from food, and the casein of milk is supplied to them ready separated. In the young ruminant, as the calf, the first three stomachs, as before stated, into which the food of the adult animal enters before it is digested, are not used at all. The milk passes at once into the fourth stomach. Hence the necessity of weaning these animals gradually, in order that their stomachs may be fully able to prepare the raw food for digestion. A large quantity of the casein in milk is required for the rapid development of the body; and the butter, a highly carbonised material, is required for supporting a large amount of animal heat. Consequently, it is a bad thing to feed calves on

skim-milk, as both the butter and casein have been removed in the shape of cream. Mr. Spencer, of England, who was very successful in weaning his calves, fed them first with new milk, and then with skim-milk and meal, the latter supplying the necessary nitrogen and nitrogenised materials. In feeding young animals, they should have good food, and there should be no stinting them as to quantity.

In the growth of young animals, as well as the fattening of adult ones, it has been found by experience that all exposure to cold should be avoided as much as possible, as a low temperature diminishes the vitality of the system, and whatever decreases vitality gives a preponderance to chemical action in the body, and injury of some kind or other will be the result. Exercise is also necessary for the rearing of young animals, although it should be avoided in fattening. In order to develop a calf or a lamb, it should be allowed plenty of exercise; but, in fattening, another object is to be gained. All motion consumes something in the body, which is the cause of the loss of so much material in the fattening of the animal. In a similar manner, exposure to cold is also an absolute loss. The primary cause of all this waste is the increased supply of oxygen to the lungs; for, whatever increases this supply, tends to the waste of the body and the necessity for a supply. Where much exercise is allowed to milch cows, the produce of butter is small, which arises from the oxygen consuming the carbonaceous material that would otherwise be secreted in the milk in the form of butter or cream. With regard to the pastures which produce the most casein, or cheese, it has generally been found that they are poor. It has also been conjectured that the exercise which the cows take on poor pastures, in order to obtain their food, tends to increase the development of the casein in their milk. Furthermore, it has been observed that stall-fed cows yield much more butter and less cheese than those fed in pastures, or that are allowed to run at large when fed upon hay. It may be stated, however, that the richness and flavor of milk depend much upon the nature of the food of the cow.

In reference to the size and structure of the internal organs of animals, as tending to their capacity for fattening or reaching an early maturity, it may be stated that large livers and

lungs indicate a general coarseness of muscle and bone; and hence may be regarded as signs of incapacity for taking on fat. It is supposed by some that, all animals with large, broad, round chests fatten best, and that they have small lungs; but this is found not to be the case, for horses have narrow chests and large lungs. Southdown sheep have narrower chests than the Leicester breed, yet they have the largest lungs; but the Leicesters are known to fatten sooner. Again, it is a prevailing opinion among butchers that the fattest cattle have both small livers and lungs. This, it will be conceived, must be a necessary consequence, according to the principles just laid down. In all cases where there is the most oxygen taken into the system, there is the greatest destruction of carbon, and consequently less carbonaceous material deposited in the form of fat. If two bullocks had the same quantity of food, and one of them had lungs of double the capacity of the other, that bullock would only appropriate half as much of his food in the formation of fat. Milk, containing much butyrateous matter, it is well known, is produced by cows with small lungs. The same holds good with regard to the liver; for where there is a large liver there must of necessity be a large secretion of bile, and consequently a large destruction of carbonaceous matter. Thus, if two animals were to eat 100 pounds of food, and one were to secrete 60 pounds of bile, and the other only 40 pounds, the food that was not formed into bile would be converted into fat; hence the gain on the animal with a small liver.

With regard to external signs, small bones indicate a delicacy of constitution in an animal as well as smallness of liver and lungs, which shows a tendency to fatten rapidly; while, in an animal with large ears, which are usually accompanied by a general coarseness and largeness of bone and muscle, the reverse is the case. The "mellow feel" of an animal depends on the rebounding of the cellular tissue, in which is deposited the fat. Where there is much mellowness, it arises from the blood being easily pressed from one part of the cellular tissue to another, and indicates a susceptibility to fattening. The chief reason why animals get more rapidly fattened at the end of their feeding season is, that the fat accumulating in the abdomen presses upon the diaphragm and

abdominal muscles, thus preventing the more complete action of the lungs, and consequently the destruction of carbonaceous materials by the inhalation of oxygen. The fat also prevents the oxygen from being absorbed by the skin, and diminishes by its pressure the capacity of the liver, and thus also adds to the fattening process. To similar causes may be ascribed the fact that fattened animals take on more flesh on their hindmost quarters than on those before.

The foregoing views accord in a singular manner with many well-established facts connected with the rearing and fattening of stock; but, as it is impossible in this short essay to treat of the subject in all its abstruse and interesting course of reasoning, it must necessarily be deferred.

Renovating Old Pastures.

MESSRS. EDITORS—How to renovate old pastures is becoming daily a more important question to us Connecticut farmers, on poor, stony, hilly land; and we must find some better way than has been in use heretofore. Will you or some of your correspondents favor me with advice.

I have 50 to 60 acres of hill pasture, with a constant tendency to white birches, briars, and brakes, and wish to adopt some method of renovating a part of it yearly, but am much at a loss how to do this. The soil is not as poor as usual hereabouts, and has a kindly eastern exposure, sheltered from cold winds; but it is remote and somewhat difficult of access, on a steep rocky hillside. My predecessor drew manure up the long hill, and by dint of hard labor, obtained a decent crop of corn. Part of the land was under cultivation two or three years, was then seeded down and is now (some five years) very indifferent pasture. Some parts are too rocky for plowing, but these are usually moist with springs, and, I hardly need add, grow fern and brake faster than I can cut them. The distance and the difficulty of access forbid the use of stable manure, even if it could be spared for the purpose, and I seek some other means of renovation. Ashes I can procure—both leached and unleached—at a cost of about 15 cents per bushel; and also some quantity of horn dust and shavings, but these latter are of course expensive. The land

would perhaps start a small crop of buckwheat, rye, or even clover, and various methods of green manuring have occurred to me, as sowing clover, using plaster and ashes freely as soon as well up, then plowing in early, in hope of a second crop; or sowing rye as a second crop for spring pasturage; or turning hogs on the clover before plowing in, and getting a crop of turnips.

Clover is, I think, our best green manure. Rye has not to my knowledge been used here in this way, and my experience of buckwheat is unfavorable.

Is it best to continue green manuring for two seasons, or to plant hoed crops the second year? Shall I use ashes solely as a top-dressing, or plow it in? And in what quantity? Will it pay to use guano or horn-dust, and if so, how shall they be applied? I do not care to raise crops on this land as I have more close at home than I can keep in good heart, though my resources are more ample in way of manures than usual in the country; but I desire to keep it in pasture with the least expense or care. Perhaps I ought to state that our subsoil is very open—gravel, or often round stone, more seldom sand, requiring constant renewal of manuring, and for grass land, re-seeding, every two or three years. H. C.

In plowing under clover, we would recommend that it be done the second year, or the year after seeding, and that ashes and plaster be used in connection with raising clover. Guano may be tried by way of experiment, and is best applied as a top dressing in autumn, but may do if sown very early in spring, or as soon as the frost is out. Two or three hundred pounds per acre will do to begin with. Ashes are high as a manure at 15c. per bushel, and at this rate we would not propose more than 50 or 60 bushels per acre. It may, like guano, be applied as a top-dressing, in autumn, winter, or early in spring. A portion of stable manure may be used in connection with these fertilizers, but it should be applied in autumn as a top-dressing and finely spread, so as to become thoroughly soaked into the soil by the commencement of growth. Horn dust should be plowed in when used, and must be looked upon as an experiment merely, although it has often produced a great increase in growth. There is no crop nearly equal to clover for green manuring, but probably a year or two of other

crops should intervene before re-seeding. We are inclined to think, however, that scarifying and top-dressing with manure, guano, ashes, plaster, &c., with heavy re-seeding when necessary, may be sufficient. However, there is so much difference in soils, &c., in different localities, that a trial only can determine this point
Country Gentleman.

Escuteheons.

When Guenon's theory of determining the value of milk cows, by the growth of hair on its thighs, above and adjacent to the bag, was first introduced, the idea was received with a good deal of scepticism. Time has wrought changes. At a late convention by the legislative club of the State of New York, one of the speakers gave the evidence in relation to Guenon's theory:

"M. Guenon, a French writer, has discovered certain indications which he claims to determine the milking qualities of cows. This he calls "escuteheons," being the hair which grows upwards, (contrary to the general rule, on the udder, thighs, and hinder part of the body. It is easy to distinguish the escuteheon by the upward directions of the hair which forms them. I cannot go into detail here upon the system, but would refer to the work of M. Guenon itself. But to show that it is esteemed worthy of notice, I will allude to the testimony of those who have given attention to it."

Mr. John Hanton, in a work published in 1853, entitled "How to choose a good Milk Cow," in reference to the indication of a good milk cow, p. 178, says: "The writer has examined many hundred of dairy cows in Britain, and the conclusion arrived at in regard to Mr. Guenon's test of judging of the milking properties of a cow, by the development of the *escuteheon*, is that, in a very large majority of cases, it is borne out by facts." In a London dairy, belonging to Mr. Riggs, 31 Edgeware road, where about 470 cows are kept, and where nine-tenths of them are far above average milkers, the *development* or *upward* growth of the hair on the posterior part of the udder, thighs, and perineum, was too remarkable to be accounted for by accidental causes. As well might it be said that all other tests, such as length of head, softness, and flexibility of skin, and wide quarters, were accidental, and had no reference to the milking properties of a

cow. When a phenomenon presents itself over and over again, accompanied in a majority of cases by certain results, we may be certain that it is not accidental, but natural; and while we may be unable to account for these results upon satisfactory grounds, it is neither philosophical or prudent, to deny or ignore the connection between the one and the other, and thus to forfeit the advantages which the fact itself is calculated to afford."

The late Mr. Phinney, of Massachusetts, a very careful and critical observer, made examination of a large number of milk cows, and found in a majority of them that were good milkers, these developments well marked. He conversed with a large number of intelligent gentlemen when he was abroad in 1851, in Great Britain and France, and found but one opinion as to the general character of the animals which possessed these developments: and so far as we have learned the views of gentlemen in this country who have given attention to this subject, the result has been the same.

"I think it may with safety be affirmed, that this 'one principle' is established—that all things being alike, as regards shape, texture of skin, &c., cows with well developed escutcheons, will, in a large majority of cases, be found to be the best milkers, and above an average; while, on the other hand, those with very small escutcheons, will be found under, or at most, not above an average in their milking properties.

"In calves, the escutcheons show the shapes which they are afterwards to assume. They are more contracted only because the parts which they cover are slightly developed. They are easily perceived after birth, but the hair which forms them is long, coarse, and stiff. After this hair falls off, the escutcheons of calves resemble those of cows, though of less size. This will enable the farmer to save such calves as will probably serve him as good milkers.—*Farmer and Planter.*

From the Southern Cultivator.

Hay Making in the South.

A Brief Essay, read before the "Beech Island Farmers' Club," at the October Meeting.

To the Members of the Club:

GENTLEMEN.—As it is expected that each member of this Club shall make a report of

some experiment, I take this opportunity present the following, on Hay making:

About the first of May, I had a ten acre lot of good river-bottom land plowed up, with double plows, from 8 to 10 inches deep; the land was then well harrowed with a good two-horse iron-tooth harrow, across the plowing, and then rolled with a cast iron two-horse roller, in order to make the surface as smooth as possible. The land was soon covered with crab-grass. In consequence of the hot dry weather, I had almost despaired of realizing a crop; but after the heavy rain which fell about the 1st of September, it revived and grew rapidly, and continued to improve until the latter part of September, when it was from two to three feet high, at which time I cut it with scythes. The plan I adopted for curing was to have what was cut in the morning turned over and stacked up about four or five hours after it was cut, and that part of it that had from four to six hours sun on it was then put into common size shocks, and remained until the next day about ten o'clock, or until the dew was entirely off, at which time they were again opened and the hay again spread, and remained so until evening, when it was put into shocks again, and remained so until the dew was off the next day, when they were opened and spread as above stated; in the afternoon, such as was sufficiently cured I had packed in the barn.

I measured one acre and obtained from that 7,675 lbs. of well cured hay, which I sold for 75 cents per cwt. in Augusta; it was weighed at the City Scales, and at that low price amounted to \$57 56. At \$1 per hundred, the amount would have been \$76 75; at \$1.25 per hundred, \$95 93; and at \$1 50 per hundred, \$115 12. These prices are not unfrequently paid for an article in no way superior. I think there were three or four acres in the lot as good as the one I measured; the balance not more than two-thirds as good. At the rate sold, the whole lot would amount to \$130; and of course still higher at increased rates, as shown above.

I would simply call the attention of the members to the fact that if this crop had been made under favorable seasons, and if sold at the average price that Northern hay commands in Augusta, which is about \$1 50, it would amount to \$920, or \$92 per acre.

My impression is that two crops may be taken from the same land by commencing earlier in the season, and there is no crop more profitable with the same amount of labor.

All of which is respectfully submitted.

JONATHAN M. MILLER.

Goodale, near Augusta, Ga.

U. S. Agricultural Society.

great National Trial of Machinery and Implements of every description pertaining to Agriculture and Household Manufactures, at the *Fifth Annual Fair*, to be held in Louisville, Kentucky, during the Fall of 1857.

The undersigned, a Committee of the United States Agricultural Society, appointed at the fifth Annual Meeting, held at the Smithsonian Institution, city of Washington, on the 14th of January, 1857, to make all necessary arrangements for a National Trial in the field of Agricultural Implements and Machinery," respectfully invite the Inventors and Manufacturers of such articles, both in the United States and Foreign Countries, to participate in a public trial to be made at the Society's Annual Exhibition, to be held at Louisville, Kentucky, during the fall of 1857.

This new arrangement for the exhibition of Agricultural implements and Machinery of all kinds in actual operation, results from a conviction on the part of the Society, that no just awards can be made except upon a practical working trial before competent judges; and the fullest opportunity will be afforded to test the comparative merits of the various machines that may be entered as competitors for the awards both as regards land for field implements, and steam power for stationery machinery.

A separate trial for Reapers and Mowers will be made at the appropriate season, special arrangements for which as to time, place, &c., will be announced at an early date.

It is intended that these exhibitions shall be on the most extensive scale for the purpose of testing the working qualities of these important implements more thoroughly than has yet been done on any previous occasion either in the United States or in Europe.

All articles from foreign countries intended for exhibition may be consigned to the "Agent of U. S. Agricultural Society, Louisville, Ky," by whom they will be received and stored free of charge.

This brief announcement of the proposed Trial is made at this early date to afford the most ample time for the preparation and transmission of machinery. A circular containing full particulars as to regulations will be issued as soon as practicable, and, with Premium list will be forwarded to persons who may apply to the Secretary of the Committee, Henry S. Ol-

cott, American Institute, N. Y., where all business letters should be addressed.

To enable the Society to make arrangements on a sufficiently liberal scale, it is absolutely necessary that the Committee should know what articles will be offered for competition; and they therefore request that all inventors or manufacturers who may be disposed to unite in the proposed trial, will communicate their intentions to the Secretary at their earliest convenience.

TENCH TILGHMAN, Chairman,
Oxford, Md.

JOHN D. LANG, Vassalboro, Me.

J. THOMPSON WARDER,
Springfield, Ohio.

GEORGE E. WARING, Junior,
Am. Institute, New York.

Committee on Implements and Machinery
of U. S. Agricultural Society.

Editors of Journals of every description, who are desirous to promote the interests of Agriculture and Mechanics, will confer a particular favor by an insertion of the above circular.

Experiments with the Chinese Sugar Cane.

Editors Genesee Farmer:—On the 5th of May, I planted some seed of the Chinese Sugar Cane, in rows three feet apart. It came up, and I thinned it out to six inches in the row. It grew to the height of eight to ten feet. I fed part of it to my cows and hogs, and they eat it with great avidity. On the 18th of September, I cut 40 stalks, and pressed the juice out by passing them through a pair of tinsmith's rollers; the produce was 7 quarts of juice, which I boiled to one quart of good syrup, or at the rate of 181½ gallons per acre.

I concluded to try it again, in order to determine at what stage of its growth the stalks contain the greatest amount of sugar. On the

3d of October, the seed being fully ripe, and after some light frosts, I cut up 60 stalks, stripped off the leaves and pressed the canes as before, but as the rollers are very small, fully ten per cent. of the juice remained in the stalks; I also spilled four or five quarts of the juice. After all mishaps, the result stands thus: weight of 60 canes, 102 lbs.; juice, 14 quarts; good molasses, 5½ pints; dry fodder, 4 lbs.; seed, 6 quarts. Rate per acre of cane, 49,368 lbs.; juice, 1694 gallons; molasses, 332 gallons and 3 quarts; dry fodder, 1,936 lbs.; seed, 90 bushels—good seed weighs 40 pounds to the bushel.

Farmers keep up your spirits, for the sweet times are coming.
R. D.

Chinese Sugar Cane---Sorgho Sucre.

Translated for the "Working Farmer" by H.
S. Olcott.

During the past year, I have made the public acquainted with the various products obtained from the stalks of the Sorgho Sucre, and have shown how this plant should be cultivated. I think it well to enumerate the results which have been arrived at since that time, to say a word concerning the causes of the failures related by various experimenters, either in culture, extraction of sap from the stalks, or distillation of *resou*, (juice that runs from the crushed canes.)

The trials made in the middle and Southern provinces of France, have confirmed my previous assertion that the cultivation of the Sorgho and that of Indian Corn, were strongly analogous. Nevertheless, several agriculturists, unwisely thinking to sensibly increase the yield of stalks, have practiced numerous floodings of the field. The consequence has very naturally been, that the sap yielded by the stalks under such circumstances, has only given on distillation three per cent. of alcohol, in place of the five per cent. usually furnished. This unpleasant result is due entirely to the too great quantity of water contained in the stalk at the time of cutting. I repeat here, what I have previously urged, that if irrigations are necessary when the soil is dry, we should not abuse this nor practice it too late.

The experiments have proved, contrary to what I have maintained, that the stalks should be gathered when the seed is first ripe. In the South (of France) it is done in September. If the stalks are cut too soon, the juices they contain are proportionately less Saccharine; if they are cut too late, they yield a smaller quantity of sugar.

At various depots, the alcohols arising from the distillation of the expressed juice of the Sorgho, have been rejected because they had an unpleasant taste. This is solely due to the crude methods of manufacture. Thus, in place of crushing the stalks with an ordinary wine-press, they had used a regular cane mill similar to those in use in the colonies, and which M. Cail, of Paris, exhibited at the World's Exposition, the yield of sap, instead of being 35 or 40 per cent, would have been

increased to 50 or even 60; if instead of leaving the *resou* to remain undisturbed for several weeks after expression, it were at once submitted to distillation, they would never have had cause to complain of its having passed from the saccharine to the acid fermentation.

But it is not sufficient to cross the canes, or to have a special crushing mill; it is likewise necessary to submit the *bagasse* (crushed stalks) to the action of an hydraulic press.

Finally, to sum up, the stalks must be cut when the grain is ripe, crushed as soon as possible, and the distillation of the *resou* (juice) speedily attended to with suitable apparatus; those used by the farmers who have obtained their alcohols with bad flavors, being very far from complete. The stalks may also be dried, for the sugar is well preserved in the medullary structure.

The facts gathered this year concerning the products yielded by the Sugar Sorgho, enable me to state that we can rely upon 60,000 kilogrammes per hectare of stalks, 30,000 kilogrammes sap, and 1,500 litres of alcohol at 50 "centes" of very fine flavor, and without essential oils. In Champagne even 2,000 litres were obtained last autumn.

The *bagasse* (crushed canes) may be fed to horned cattle.

As to the yield of seed, it varies from 40 to 50 hectolitres per hectare.

All other things being equal, the Sorgho Sucre is from this time forth destined to assume an important rank amongst the crops of the South (France) and Algeria. I remain convinced that, if well cultivated and well treated in distilleries, it will be for certain countries what the sugar beet is for the provinces of the north of Europe. I do not despair of hearing soon that its culture is introduced in Martinique, the Isle of Bourbon, &c. We know that this plant is an annual, and that the *resou*, which it yields contains eight to ten per cent. of raw sugar analogous to that from the cane.

If this plant, which surprises one by its height and the beauty of its stalks, be not destined to be cultivated in France for its sugar-bearing qualities, it is indisputable that it may still be regarded as one of our very best forage crops.—Cut in July, in the more central portions of France, it affords an abundant green forage, *springs up again, and gives in October an excellent second crop.* We do not elsewhere pos-

ss amongst the grasses, plants which offer such advantages.

I repeat that the hulls of the seeds contain a coloring matter of a blueish violet shade, which Secard, of Marseilles, has successfully used in the dyes for cotton and linen goods.

GUSTAVE HEUZE,

Professor of Agriculture in the

Imperial School at Grignon.

Journal d'Agriculture Pratique.

Kilogramme, - - - 2 lbs. 5 1-2 drachms.

Iecture - - - 2 1-2 acres

Litre - - - 2 1-9 wine pints.

REMARKS.—Unlike the *Dioscorea Bitata*s, which has met with very general censure from our experimenters last season, the Sorgho has fully met the expectations of its most sanguine friends. As it becomes more generally known, and new experiments are instituted upon it, we predict that it will meet with more extended favor. Its good qualities may be enumerated as follows :

1. Its cultivation is no more troublesome than that of corn.

2. It grows to full height, and will doubtless perfect its seed as far north as the latitude of Halifax.

3. It is a very profitable forage crop, giving two crops—one in July, the other in October—of a green fodder superior to sweet corn.

4. It yields 25 bushels of seed per acre, which make a fine meal, and the hulls of which afford a good dye stuff.

5. It, together with this seed, gives also one thousand or more pounds of excellent sugar per acre, and at the same time fifty-five gallons of molasses or syrup.

6. It gives on distillation about 300 gallons of alcohol at 50 centesimal.

7. The crushed stalks may be fed to cattle who are very fond of it.

8. If used to make syrup only, it has yielded to Mr. Peters at the rate of 468 gallons per acre.

9. The molasses may be distilled into tafia, rum, brandy and a beverage similar to cider.

Without being champion to the extravagant speculations of some of our friends, we cannot but believe that the introduction of the Sugar Sorgho into America is of vast importance to our political economy, and we think the day not far distant when its manufacture into sugar, and distillation into the various alcoholic compounds,

will be largely undertaken in the Northern and Southern States.

In the letter which we translated for the Working Farmer last Spring, M. Avequin says that the brandies, rums, &c., yielded by it, can in no wise compare with the Cognacs, but Professor Heuze, in the above article, maintains that this inferiority is entirely due to imperfect methods of manufacture. We shall see, however, in the future which view is the correct one.

The samples of syrup made by us at the Westchester Farm School, were of very fine quality, equal, we think, to good maple syrup; and that given to us by Col. Peters, of Georgia, tasted not unlike molasses candy, or the cooked syrup on baked pears.

We esteem it our duty to afford every information in our power concerning the Sorgho, and shall translate from time to time the remarks made upon it in the French Journals.

H. S. OLCOTT.

Guano.

In answer to sundry inquiries as to the price of Guano, how to know that it is genuine, what kinds are best, how to use it, and whether it is profitable for a farmer, we offer the following remarks :

Guano is sold by the agent of the Peruvian Government in New York, at \$60 per ton for No. 1, in bags of about 160 or 170 lbs., and 500 tons or upward at once, on 60 days credit. In smaller lots, it is \$65 cash. We believe that it is not sold in less parcels than 25 lbs. by the agent. It is a mystery to many persons how retailers sell guano at less than these prices. They may do so and be honest; because they buy long tons and sell short ones; and, as it costs about 2 2-3 cents a pound, if sold at 3 cents, which is the usual price, it affords a fair profit—say \$7 a ton. But guano, said to be genuine No. 1. Peruvian is sometimes sold by the single ton in this city, at \$35 a ton. It may be so, but we don't believe it, because men are not apt to do business without profit much more, at a positive loss. At \$60 a ton, we should like to know our man, and have more confidence than we now have in any one in that trade in this city. It is altogether better for farmers to club together and buy their guano direct from the agent, at his price, and be sure to get honest

weight. In every cargo of Guano there is 50 to 100 tons in the bottom that is damp, and this is sold as No. 2, at about \$15 per ton less than No. 1, and the bags weigh 15 or 20 lbs. more, on account of the water, and besides, it is not so good. Then we have "Mexican Guano," which is sold at any price from 10 to \$25 a ton. "Ichabo Guano" is worth about \$40. There are some other kinds, both genuine and manufactured, but none but Peruvian can often be found at retail. What becomes of all the others, is a mystery to those who know that some of the largest retail dealers in the city buy large quantities of the cheap kinds, and cart them to their storehouse, where, for aught we can say to the contrary, they are still in store, waiting for a rise in the market. It is barely possible, however, that when No. 1 and 2, Peruvian and Mexican, Chilean and Ichabo, are emptied upon the floor together, the moisture of the No. 2 is absorbed, and the Mexican loses its color, and the whole pile turns of its own accord, into "genuine No. 1 Peruvian Guano—warranted."

We should a little rather buy of the agent at \$65 than of any retailer at \$55, notwithstanding the warranty; and that is the only way to know whether it is genuine; for we defy the best judges to tell by looks, taste or smell.

In England, adulteration of Guano has been carried to an extent hardly to be credited by such honest traders as the Universal Yankee nation. As it is generally supposed that some of that nation have learned to adulterate liquors, it is barely possible that they have learned to adulterate guano.

As to the best kind, we cannot recommend a farmer ever to buy any but genuine No. 1 Peruvian guano. Other kinds may be worth their cost, but then again they may not be better than so much yellow dust.

HOW TO USE GUANO,

The best way is to sow it broadcast, without any mixture or preparation, except to break the lumps by a light plowing or heavy harrowing, and sow the land with wheat or other small grain and clover or grass, in all cases. If it is used with corn, potatoes, or other crops, mix it well in the soil, and follow that crop with another the same season, to get the after effect of the guano.

If applied as a top-dressing to grass, it should be sown immediately before or during a

rain, or else mixed with charcoal dust, or plaster of Paris. It may be thus used upon wheat or other small grain.

QUANTITY TO THE ACRE.

From 200 to 300 pounds we consider the most profitable application, though it has often been used to advantage in larger and smaller proportions.

IS IT PROFITABLE.

For the purpose of renovating the poorest, worn-out sandy-plain in the country, or soil-denuded gravel knoll, it is the most profitable application ever made by a farmer. Upon all lands which need manure to make them produce a fair crop, it is profitable; and it is certainly so, in very many cases, to use it instead of other manure, where that has to be hauled any considerable distance. If it would be profitable to restore such a tract of barren sand as that, for instance, between New Haven and Meriden, Connecticut, to a condition which would produce crops of grain capable of paying all expenses, followed by a heavy crop of clover, then it would be profitable to apply guano to that land, for that is what it would do. If a farmer can make the poorest old field as productive as the richest one, for an expense of \$9 an acre, then it is profitable to use guano. The same may be said of Superphosphate of Lime. If it is genuine it is valuable, and its use profitable. But how some people have been cheated with this stuff.—*New York Tribune.*

From the Southern Cultivator.

Chinese Sugar Cane.

LETTER FROM DR. ROBERT BATTIEY.

Editors Southern Cultivator—The general interest now felt (over the entire country) in the Chinese Sugar Cane, and the experiments made with it by myself and others, has so encumbered me with letters of inquiry that I find it a serious tax upon me to reply to questions so often repeated. May I ask the use of a small portion of your space that I may speak to all at one sitting? If there be any of my correspondents who are not readers of the Southern Cultivator, I trust they will at once avail themselves of its benefits.

1st. Of the precise dimensions of the mill used by Mr. Peters, I cannot speak definitely. I would select for myself rollers of cast iron 18 inches in diameter and 24 inches in height,

and of the latter dimension 4 inches should be devoted to the cogs and 20 inches (roughly turned off in the lathe) for the pressing surfaces, which should not be smooth, or the cane will slip and greatly retard the pressing. Such a mill will harvest five acres satisfactorily.

2d. The mill must extract 50 per cent. of the entire weight of the cane, or it is not economically adjusted. If it be put up in the best style, and the power is ample, 60 per cent. is not too high a figure for the best cane. The mill should so perfectly accomplish its work that the *bogasse* shall be a refuse product—so far as syrup is in question—after having passed the mill. It will be so broken and contused that it cannot be returned to the mill with any advantage, and pressing it after the manner adopted for the extraction of cider would be a most unprofitable expenditure of time.

3rd. "The leaves or blades" should be removed before pressing, and indeed before cutting the cane from its root. This should not be done "carefully," as suggested by a correspondent, for this, in the strict acceptation of the term, would involve needless waste of valuable time. The fodder should be stripped off rapidly and tied into bundles as usual with corn for the reasons: first, that it is a valuable part of the crop; secondly, if left upon the cane it would retard the pressing and contaminate the juice with an additional quantity of objectionable vegetable matter.

4th. Let me say by way of explanation to my Northern friends: syrup is, with us, the juice of the cane boiled down to the consistency of molasses, while the latter article is the drippings from granulated sugar. The first is a primary and the latter a secondary product. The consistence is materially the same.

5th. To those who desire a statement of the number of barrels of juice and syrup estimated for an acre, I would say: measure your barrel in gallons, and by the simple rules of arithmetic, divide my figures by yours, and you have the estimate. I give my figures in gallons as being more definite and more easily comprehended.

6th. In reply to many inquiries for seed of reliable quality, I would say; that I have no seed beyond a very small parcel which I have grown for my own experiments. I will, however, cheerfully assist those who desire in referring them, so far as I can, to reliable sources

for their supplies. Parties who have such seed for sale would do well to let the fact be known through your advertising columns.

ROBERT BATTERY.

Rome, Ga.

Stable Treatment of Horses.

It is one thing to know how to use a horse, but it is another thing to know how to *take care* of him. A stabled horse needs special care and attention. His feeding must be regular as the measurement of the hours. When a change of feed is made it must be done with great care—giving a small allowance at first until the stomach becomes used to the change. He must be cleaned every day; and when we say cleaned, we mean all that can be conveyed by that word. A good curry-comb, brush, and an oiled woollen cloth are the utensils necessary. First take the curry-comb and begin at the top of the neck, back of the ears, working the hand both ways. Proceed in this way till you take both comb and brush, and follow the comb with the brush, and after every stroke, draw the brush across the teeth of the comb to clean it. An experienced groom will do this instantaneously. This done, take your cloth and lay the coat, and remove the dust that adheres to the outside. The face and ears must also feel the brush.

Few men know how to clean a horse properly. If the above directions are followed daily your horse will enjoy good health generally. Stabled horses must be exercised daily. This is absolutely essential to good health. If the feet of your horses are brittle and are liable to break and crack, they must be well oiled once a week. A horse thus treated will always be ready to go when wanted, and you will not be ashamed either to ride or drive him.

Another thing quite as important is a clean and well ventilated stable. We cannot excuse any farmer or horse owner who does not clean out his stable twice a day. A stable should be so constructed as to have a wide passageway or floor in front to feed from. Above the manger a space should be left a foot or two in width clear, and the passage way should be the avenue for the supply of fresh air to the nostrils of the horse.

A horse enjoys a good bed, and it should never be refused him. At night take your fork and make it up light and you will feel amply rewarded for the humane treatment you have given to your beast.—*Prairie Farmer*.

Testing Guano.

The previous analyses show, that guano may be *perfectly genuine and yet miserably bad*; how great then must be the danger of deception, when intentional adulterations, which render a bad guano still worse, are superadded! Under these circumstances, it cannot be too strenuously recommended to the farmer, that, unless he wishes to run the risk of throwing away his money, he should buy guano from such sources only as are known to be undoubtedly trustworthy, or after a previous chemical examination. If he is not afraid of a little time and trouble, he can institute a trial for himself very easily. Tests are now possessed of such simplicity as to require scarcely more dexterity and attention than roasting or boiling coffee, and yet sufficiently accurate to serve in doubtful cases as reliable guides.

1. *Test by drying and subsequently washing with water.*—If the guano, as is generally the case with those kinds that are brought from Peru and Chili, is a uniform powder, weigh two ounces, spread it upon paper, and let it lie for two days in a moderately warm place, in summer in a dry and airy situation, in winter in a warm room or chamber, in order that the air may dry it. What it may then have lost in weight must be esteemed superfluous water. Many sorts of guano are so moist as to lose by this gentle drying from three to four drachms (20 to 24 per cent.) in their weight.

If the guano, like the Patagonian and African, is not of uniform character, then, in order to obtain a mixture as equable as possible, the lumps, which have frequently an altogether different composition from that of the powdery portions, must be broken in pieces and pulverized, before weighing off and drying a given quantity. In like manner care must be taken to distribute stones, feathers, &c., when they are present, equably throughout the mass. As the stones are often so firmly stuck over with the guano that they can only be freed from the latter by tedious scraping, it is advisable to pour hot water over a distinct portion in some convenient vessel, and to let it soften by standing for a night, upon which stones and sand will remain behind after agitation and washing with water.

2. *Test by combustion.*—Pour half an ounce of the guano to be examined into an iron spoon

and place it upon red hot coals until a white or grayish ash is left, which must be weighed after cooling. The less ash is left behind, the better is the guano. The best sorts of Peruvian guano yield, from half an ounce, somewhat more than one drachm of ashes (30 to 32 per cent.); whereas the inferior guanos that are now so often offered for sale (for example, Patagonian, African, Saldanha Bay, and Chili guanos) leave a residue of from 2 1-2 to 3 drachms (60 to 80 per cent.), and those intentionally adulterated a greater quantity of ashes. Of genuine guano, the bad, as well as the good, the ash is always white or gray; a yellow or reddish color indicates an adulteration with loam, sand, earth, &c.

The test is very simple, and at the same time very trustworthy; it rests upon the fact, that the nitrogenous combinations existing in guano and forming, as has been demonstrated in a preceding section, its most valuable ingredients, undergo combustion and volatilization when subjected to heat. Here, too, the difference of odour during the combustion is characteristic. The vapours from the better specimens have a pungent smell, like spirits of hartshorn, with a peculiar piquancy, almost like old Limbourg cheese (decayed); whilst those rising from inferior varieties smell like singed horn-shavings or hair.

The combustion may be undertaken on any hearth or in any parlor stove, without fear in the latter case that a disagreeable odour will be diffused throughout the room. A brick should be firmly thrust down into the fire, and the spoon laid upon it in such a way that the handle rests upon the brick, and the bowl with the guano projects free over the fire. A cork should be fixed on to the extremity of the handle, in order that the hand may not be burnt when brought in contact with the heated spoon.

3. *Lime test.*—Put a teaspoonful of each kind of guano to be examined into a wineglass, and upon this a teaspoonful of slaked lime; then add a few teaspoonsful of water and agitate the mixture briskly. Lime liberates the ammonia from the ammoniacal salts contained in the guano, in just the same manner as from rotten muck and putrid drainings; and this escapes; *the more excellent, therefore, a guano is, the stronger will be the pungent ammoniacal odour which escapes from this guano paste.* This test does not indeed possess the accuracy

of the preceding, but is still in many cases very convenient on account of its simplicity, and more particularly where it is desirable to pass a general and approximative opinion upon the quality of different kinds of guano. Under present circumstances, especially, its utility appears the greater, because guano of intermediate quality is now of very infrequent occurrence, and commerce presents us for the most part with remarkably good or remarkably bad qualities, in examining which the lime test can be advantageously used, inasmuch as the difference in the strength of the odours is really so remarkable, that it cannot escape the detection of the most unpractised nose.

In order to be able to apply this test at any moment, it is judicious to keep a portion of slaked lime constantly on hand. But that this may not lose effect, it must be carefully excluded from the air, and should, therefore, be preserved in a dry and well-corked bottle.

4. *Test with hot water*.—Make a filter of blotting-paper, folded together into the shape of a cone, and put this into a tin-funnel wire triangle. Let half an ounce of air-dried guano be placed in this, and over it pour hot, best boiling water, as long as it passes through of a yellowish colour. If the paper with the moist guano is laid, when no more liquid drops from it, in a warm place, and the residue weighed when it has become completely dry, the deficiency from half an ounce will show the weight of those elements which have been dissolved by the water. As a general rule it may be held, *the larger the quantity of guano that is dissolved in water, the more ammoniacal salts does it contain, and the better it is*. Hence that guano must be preferred, as in the test by combustion, which upon being so treated with water, leaves behind the smallest residue. In the best or Peruvian guanos, the residue from half an ounce that is insoluble in water amounts to about 2 drachms (from 50 to 55 per cent); on the other hand, in the comparatively worthless guanos from 3 to 3½ drachms (80 to 90 per cent.).

Exceptions to this rule may, however, occur, namely when a guano contains many soluble mineral salts. Specimens have been met with in commerce which consisted to the extent of one-half or two-thirds of sea-salt and Glauber salt; such guanos, upon being treated with hot water, would only leave a residue of from one

to two drachms of insoluble substances, yet good merchandise. In such a case most complete security is afforded against an erroneous decision, by the use of the combustion test described above; for then it would be found that a guano of the kind in question yielded three drachms and more of ashes, and must accordingly be admitted as an inferior variety.

5. *Vinegar test*.—Pour strong vinegar, or, better still, some muriatic acid, over the guano to be examined: if a strong effervescence ensues, an intentional adulteration of guano with lime may be inferred. This substance may also be recognized by the combustion test, since lime remains behind in combustion and augments the quantity of ashes.—*Stockhardt's Chemical Field Lectures.*

BENEFACTORS OF MANKIND.—It is not he who invented Brussels Carpeting or Gold Brocade, whom the masses have reason to hold in regard, but he who furnishes something useful to every-body. One of our government officials lately returned from his mission in Brazil, tells as an anecdote that among the first enquiries made of him about his acquaintance with our public men, was whether he knew the American Chemist, Dr. J. C. AYER, who invented the Cherry Pectoral and Cathartic Pills. As these articles (more particularly the Cherry Pectoral) are in general use in the cities of South America they are the most prevalent representations of American products, and as many thousands there as well as here, owe to them the recovery of their health from malignant diseases, it is not strange they should hold the inventor in esteem, but it is rather simple in them to suppose that the Doctor is the only man of mark we have among our twenty-five million people.—*Christian Advocate.*

TO MAKE HARD CANDLES OF SOFT TALLOW.—I noticed a request a short time since, for a receipt to make soft tallow hard. I send you one I know by experience to be good. To 12 pounds of tallow take half a gallon of water, to which add three tablespoonfuls of pulverized alum, and two tablespoonfuls of saltpetre, which heat and dissolve; then add your tallow and one pound of beeswax; boil hard altogether, until the water evaporates, and skim well while boiling. It should not be put in the moulds hotter than you can bear your hand in. The

candles look much nicer when the wicks are not tied at the bottom. It is not only a disagreeable task to cut the wick off, but it injures the moulds. Never heat your moulds to draw your candles in cold weather.

Perhaps it is not generally known that tallow from beeves fed on corn or grain, is much softer than when fed on grass or clover. Therefore the tallow from grass fed cattle should always be selected for summer use, and the candles will always be hard with the addition of very little alum and beeswax. In very cold weather much less alum must be used, or they will crack so as to fall to pieces sometimes; and a third more of each should be used in very warm weather, if the tallow is very soft. With a little management you can always have hard tallow for Summer use where you make all your own candles.—F. in Co. Gent.

From the New England Farmer.

Molasses from Chinese Sugar Cane.

Mr. Editor—About the middle of last June I received by exchange several small packages of seed from the Patent office, among which was one of the Chinese Sugar Cane. On the 48th of the same month I planted a few seed for experiment, from which one hill of seven plants was reserved. These thrived well, and at the time of the first heavy frost had attained a growth of about ten feet, with the seed at the tops apparently full sized, but, as was anticipated from the shortness of the growing season, not well filled and scarcely colored.—From six of the stalks the juice was expressed and boiled down to the consistency of common molasses, yielding about a common coffee cup full (or one and two-thirds gills) of a rich syrup, which our grocers considered to be richer flavored than ordinary molasses, equal in quality to the syrup of commerce.

The saccharine substance was extracted from the cane by the following simple process: the cane was divided at the natural joints, and from the pieces thus obtained the hard bamboo like casing was slipped, leaving the pith. The pith broken into pieces of convenient size was reduced to powder in a hand mortar, and in this state was thoroughly macerated in several waters, until little or no sweetness could be detected in it. The sweet infusion was strained

through a linen cloth and then boiled to the proper consistency.

The process, I hardly need to state, was a laborious one, yet to a good degree thorough; and while I would not recommend it to the man who may cultivate his acres, and has at command all the resources in apparatus that art and science have afforded him, yet to some of the many who are deeply interested in the attempt to introduce the cultivation of the cane into our Northern Agriculture, and are anxious to experiment in the matter, but whose most extensive and complicated crushing apparatus consists of a mortar and pestle and a strong right arm, a statement of the above simple process, may stimulate to a like experiment, and to such "emendations and corrections" as a little experience and good sense will be sent to afford us.

Please accept, with my best wishes, Mr. Editor, the accompanying sample of the molasses.

J. J. H. GREGORY.

Marblehead, Mass., Dec. 9, 1856.

From the Homestead.

On the Cultivation of Hops.

We have long felt confident that this, a source of profit of importance, is not appreciated by our farmers. The following is from an extensive hop grower of central New York.—We hope to hear again from him on the manner of harvesting, picking, drying and marketing of the crop; and doubt not his willingness to answer questions which may be proposed through our columns.—Ed.

Messrs. Editors:—After selecting a level piece of land, clear from all fast stones, plow it in the Fall very deep; manure it well in the Spring, make it rich; plow it again and mix the manure thoroughly with the soil, and make the surface smooth; then mark it out seven feet one way and eight feet the other, getting your rows straight as possible for it will be all the better to cultivate. Cut your roots into "sets" two joints on a set and plant them at the crossings of the marks, setting three or four in a hill. Make the holes with a sharpened stick low enough to receive the set, in a standing position slanting so that the tops will nearly come together and cover them lightly with soil. There can be corn planted between the rows the first year, and a good crop raised.

Give room enough between the hop hill and

corn to run a cultivator; keep the hill of hops perfectly clear from weeds, the last hoeing hill them up well, making the hill large as a good sized potato hill. This finishes the work for the first season. Keep cattle from running over them when the ground is wet, as it will injure them very much if they are allowed to do so.

The poles are cut and drawn the Winter following and sharpened for setting in the Spring; those used here are generally cedar but any other wood will answer. They should be from eighteen to twenty-five feet long. Give the soil a good dressing of fine manure broadcast over the surface; plough them out both ways between the rows, turning the furrows from the hills each way; then cut off all the old vines, and you are ready for setting the poles. Two poles to a hill is all that is necessary; set them diamonding so that it will give seven feet between the rows each way.

When the vines are up two or three feet high we wind them around the poles going with the sun and tying the vines below the second joint with woolen yarn or rushes, only two vines to a pole. When this is done cultivate the surface down smooth, hoe them out clean, take all the weeds out of the hill. Cut all the spare vines off when those on the poles are up 6 or 8 feet. This can be done at the second hoeing. Be very particular and keep the vines on the poles; they will want tying three or four times and the wind will blow them off if they are not tied often. It will be necessary to use a ladder; but make one to stand of itself and let it not lean against the poles. Cultivate them as often as they get weedy. The last hoeing or hilling up is done about the first of July, and in this manner, take a shovel and throw about a bushel of soil on the hill between the poles; this finishes them until harvest which commences between the first and tenth of September. This is the way hops are cultivated in "York State."

THOMPSON BEACH.

Peterboro', Feb., 1857.

Hard Times Pudding.—Mix half a pint of molasses with half a pint of water; add a tablespoonful of butter, melted; a small teaspoonful of saleratus, and a little salt; stir in flour enough to make a tolerably thick batter. Boil three hours, and eat with warm sweet sauce.

M.

From the Southern Cultivator. Saving Pea vine Hay—the China Prolife Pea.

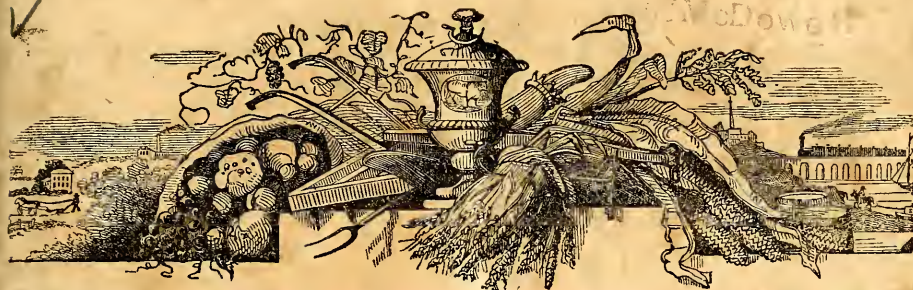
EDITORS SOUTHERN CULTIVATOR.—In the October number of the Cultivator, I notice a communication from "T. C. C." in which he complains that he can find no suitable substitute for fodder, much as he objects to the loss of time and corn involved in pulling it. He says he has found it possible to gather and cure pea-hay so that his horses would eat it, even after several days sunning. I think he would find it an advantage to pursue a plan introduced into our neighborhood by Dr. GOREE, which is, to plant the peas in ridges four or five feet apart, after he has taken off his crop. Just before frost he has the vines pulled up and thrown into "winnows." After it has taken one day's sun, and before the leaves get dry enough to crumble he has the rows chopped in two every ten or twenty feet (depending upon the amount of vine) then loaded on a wagon, and driven to a convenient place for stacks, which are made by setting up posts fifteen or twenty feet in height, well imbedded, and having holes bored with a two inch auger every two feet, through which are thrust strong poles extending five or six feet on each side. On these are hung the vines, from bottom to top. The stock should be thatched with oat or other straw, and suffered to remain untouched for a month; when he will find a rich sweet food that will keep his horses and mules (unless at work) perfectly fat without the assistance of other food.

Another plan which we find successful is to put the vines in rail pens, having after each load two or three rails thrust through from one side to the other, so that the next load may partially rest upon them; in this way, admitting a free circulation of air. "T. C. C." will find by adopting this plan that his most fastidious horses will willingly eat pea hay.

Mr. Wm. F. Douglass of this county, is this year planting "China pea," which I think should supersede the use of every other. I have noticed his crop from time to time during the season, and must say I have never seen anything to equal it. I shall plant no other next year, so well satisfied am I of its superiority.

W. R.

South Bend, Ark., Oct., 1856.



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WILLIAM D. COOKE, Editor, and Publisher.

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Miscellaneous.

From the Ohio Cultivator. Sheep Husbandry.

BY JAMES D. LADD.

In order that sheep should go through the winter well, it is indispensable they should commence it well. To secure this *sine qua non*, they must be carefully looked after during the fall or early winter. My experience and observation is, that more is lost for the want of attention and a little expense during the 11th and 12 mos. (November and December) than any other portion of the year. The reason obviously is, our flock-masters, being busied about many other things, put off the time of getting their stock into their winter

quarters to the latest period that will possibly do; this we often do when we know that our flocks are losing flesh, but console ourselves that we will make it all up when we have them in comfortable shelters, and have more time to devote to them. This, however, is a fatal error, for one gallon of grain, with protection from the cold, drenching rains of autumn, will do as much good as a bushel given in the severity of mid-winter, after the poor creatures have shivered half their vitality away; in fact, if a sheep gets poor in the fall, the crows are pretty sure to get his carcass before spring. If, however, by extra care he be made to worry along, undecided whether to live or die, until clipping time, he will then yield but a few ounces of wool, and go to summer pasture a skeleton. Ewes in this situation do not raise more than 20 per cent. of their lambs.

Sheep, like all other stock to be the most profitable, must be kept strong and healthy the year round. To do this, keep no more than you can give an ample range of good grass during summer, and comfortable shelters, with a liberal supply of wholesome food and drink during winter.

Commencing with the spring of the year, my experience is, that it is best to divide your sheep, according to age, sex, and condition, into lots of from 50 to 80—in no case more than 100; clip off that portion of the wool upon which tag-locks collect, and when you are sure


J. J. M. ...

that there is enough grass to keep them full, turn them out. In this latitude, this will be from the middle of the 4th month (April) till the middle of the 5th month (May,) owing to the season. Allow them 10 acres, with running water in it, for 80 head of grown sheep, or 50 ewes with young lambs, and salt them twice per week for one month, which will bring you to the time for washing and clipping.

To perform this interesting operation aright, take them to a running stream of soft water; put them in a crowded pen as close to the water as possible; have an able-bodied man to carefully throw them in, where two men should be standing in water $2\frac{1}{2}$ to 3 feet deep, to see that they get thoroughly wet, and pass them directly to the shore, which should be on a level with the surface of grass, or with gravel. When you have thus passed the flock through, bring them again into the crowded pen, and let them stand about fifteen minutes. If possible there should be a stream of water from 10 inches to 2 feet wide and 3 inches thick, passing through a spout, and falling from 2 to 3 feet, into the water, where the two men stand. Now let the man in the pen commence putting in again, and the two in the water convey to the spout; place them under, and keep constantly turning them, so that the water shall not fall long on one portion of the body, and in two or three minutes the whole fleece will be white as cotton. Now take them carefully to the shore; support them a moment, until the great weight of water runs out of the wool, and they will be ready to travel back to their pasture, where they may remain three or four days, or until their wool is dry, when they should pass at once to the hands of the shearer, especially if the weather should be warm; as a very short time after they are once dry, the yolk rises enough to discolor the fleece. And although it does add to the weight, every judicious buyer will leave greasy clips, and pay more per lb. for clean wool of the same grade, knowing full well that it is more desirable for the manufacturer. Moreover, we hope you are all aiming to "do unto others as you would they should do unto you."

We shall not undertake to say how you shall arrange for shearing, or how the operation is best performed; many good shearers differ in their *modus operandi*. There is one matter that can now be conveniently attended to,

which is worthy of consideration;—have a pot of paint and a type (no matter what, a corn-cob answers very well if the marker understands the signification of the character,) and mark each sheep, dividing them into three or more classes, as to quality and quantity of wool: then, when you have a surplus to dispose of, pick out the light shearers and sell them for what they will bring: thus you can always keep up a fair average weight of fleece; and, generally, you will increase it until you arrive at the maximum. These things all done, your flock will only need to be salted once per week during the summer, and to be changed occasionally from one range to another; for although, of an average season, 16 acres of good pasture land, especially if covered with the native grasses, will support 80 sheep; yet I think there is a great advantage in having one more range than you have lots of sheep, and change them from one to another, so that no one lot shall remain in the same enclosure more than six weeks at a time.

As soon as the pastures are injured by frost, place a few troughs in your fields: which may be made by setting a board, 6 inches wide, upon edge; lay one 7 inches in width upon it, in such position as to form a right-angle; nail the edges together; lay them on a level surface, with the base of the angle down: take two pieces of 2 inch stuff, 18 inches long and 12 or 14 inches wide; place them against the ends, which are represented thus  with one edge upon the level on which the boards rest, and mark the outer edges of the angle. This, you will perceive, will describe a right-angle, which saw out. Now turn the whole structure over; let the trough rest in the spaces cut out, placing the supports 18 inches or 2 feet from the end, and drive 3 nine-penny nails through into them on each side; place the triangular pieces cut out in the ends, and secure them in the same way, and you have a cheap, convenient trough, that, with some care in handling, will last a long time. Have enough of these in each field to allow 20 sheep to eat out of 12 feet in length; and give them every morning half a bushel of oats, or three gallons of corn to the hundred head, and it will fully supply the failure of the grass for one month; then, as the weather becomes more inclement, increase the amount of grain until you get equal to half bushel of corn per hundred head.

In the meantime, during the second month of this feeding (which, in this latitude, will probably be from the 15th of the 11th mo. to the 15th of the 12th mo.), when a cold rain or snow squall is approaching, put them in shelter, and give them a little hay; let them remain until the storm is over. If you have to choose either horn of a dilemma, keep them from drinking 48 hours, rather than let them get soaked in a cold rain—the chilling wet will injure them much more than the suffering from thirst.

We have now come to the time that they should be put into winter quarters.

Your sheep barn should be placed in a position protected on the north and west by higher ground, or a grove of timber, giving one side a southeastern exposure; upon this side have your yards, in which it is very desirable to have pure, running water. Opening into the yards have double doors, so that you can throw open a space, for ingress and egress, at least 12 feet wide—better 15 feet—or, in a large barn, even 20 feet; this allows a large number to pass abreast, and prevents injury from jamming against the sides. On this side, also, have as many windows as you conveniently can, for the admission of sunshine, of which you can't have too much. Stocks of all kinds do better, every way, to be so situated that the sun's rays can penetrate at least a portion of their apartments several hours of each fair day. I know the idea prevails to a considerable extent, that stall-fed animals take on flesh faster in a dark stable. I look upon it as a popular error, brought about by the fact that, in shutting out all light, the animal is protected from causes of excitement that might otherwise come within the range of his vision. This desirable object can be attained without depriving them of the luxury of sunshine, simply by placing the windows higher than they can raise their heads. Dr. E. K. Kane, in his arctic voyage, describes his admission into a small spot of sunlight, after the dreary darkness of an arctic winter, to be like bathing in perfumed water. Doubtless many a poor beast has felt a degree of the same sensation when coming out of long confinement in a dark stall.

I have found it most convenient to feed grain in the yards, and long food in the barn. To this end, place the triangular troughs, hereto-

fore described, in the yards; place the racks in the barn, so as to divide the space into parts of a convenient size, for the different lots of sheep; which should remain divided much as they were in the summer. When you commence feeding in the morning, place the grain in the troughs; open the doors to their greatest capacity; when the sheep have passed out, close them; go in and put the hay in the racks. If the day is fair and mild, open the doors and leave them, for the stock to pass in and out at pleasure until evening; if cold or stormy, close them in until time to commence feeding in the evening, then turn out, and while you are filling the racks, they will have an opportunity to drink, if there is water in the yard; then turn in and close up for the night. Thus continue, with as much regularity as possible, keeping the shelter dry and clean by frequent litterings with straw, the stubbles left in the racks, &c.; allowing one half bushel of corn, or one bushel of oats per hundred head, per diem, with as much hay as they will eat, without wasting it, until the time of spring pasture. Then follow the directions herein given, until you have your clip of wool ready for market, and I will guarantee you get your money back with interest.

Sugar from the African Sorghum.

Interesting facts Concerning the Sorgho or Chinese Sugar-Cane, and the Imphee—Specimens of Sugar Exhibited—Manures, &c.

The Farmers' Club was called to order at the rooms of the American Institute at noon yesterday, Judge Livingston in the chair, and a large attendance of members present.

Horace Greeley introduced Mr. Leonard Wray, of Natal, South Africa, who has had more experience in the culture of the various species of *Imphee*, (including the Chinese Sugar Cane,) than, perhaps, any other European, and has succeeded in obtaining as fine crystalized sugars directly from the juice as those resulting from the Louisiana Sugar Cane. He is referred to as the highest authority by M. Vilmorin, of France, Count de Beauregard, and the illustrious gentlemen of the Imperial Acclimation Society, and has visited this country, on invitation of a governor of one of our Southern States, for the purpose of cultivating the varieties of the new su-

gar plant which he considers most valuable, and to introduce the methods, discovered by himself, for obtaining the valuable product of crystalized sugar. His arrival at this moment of our first experience with the sorgho cannot but be considered most opportune, and the very valuable information which he possesses will be of first consequence in its prospective bearing upon our national revenue.

Mr. Wray commenced by stating that he had discovered, growing wild upon the southwest coast of Caffraria, the curious *Imphee*, which was in common use among the natives as an article of food. He had been so favorably impressed with its qualities as to undertake protracted journeys to collect new varieties, and met with such success as to procure no less than sixteen distinct kinds of greater or less saccharine richness. Some of the more precocious ones will complete their growth in three months, while others require as long as four and five.

The names of the sixteen varieties are as follows: *Nee-a-za-na*, *Oom-se-an-a*, *Boom-be-va-na*, *Shla-goo-va*, *Shla-goon-dee*, *Vim-bis-chu-a-pa*, *E-a-na-moo-dee*, *Zim-moo-ma-na*, *Zim-ba-za-na*, *E-both-la*, *E-thlo-sa*, *Boo-ee-a-na*, *En-ya-ma*, *Koom-ba-na*, *See-en-gla-na* and *E-en-gla*. The first four of these are of quick growth, and will produce one crop of sugar at the North; the others are suitable for the South, and some of them will give two full crops.

For feeding to stock Mr. Wray says there are no crops, possessing an advantage over these *Imphees*. They are fully equal to southern cane, and are greedily eaten by every description of stock. He had fed his horses, cattle and pigs on them. The idea has been advanced by some in this country that the *bogasses* (stalks which have been crushed for sugar-making) would be good feed for stock, but Mr. Wray had lost some animals from making use of them, and on opening their stomachs after death the fibrous Sorgho stalks were found to have formed into hard balls and accumulated in such indigestible masses as to cause death. If, however, the *bogasses* had been fed with the scum, which is removed from the boilers, this bad effect would not have been experienced. If fed green, as are cured corn stalks, there can be no more profitable or nutritious article employed, and for this alone its cultivation would be profitable.—These crushed stalks, or *bogasses*, make an excellent paper, and Mr. Wray has samples in England which are superior to straw paper.

Judge Meighs desired to know if there was much value in the seed. Mr. Wray said, that for a feed for fowls there could be no better, and that from his African *Imphees* very fine bread can be made. The Chinese variety is not so good for this purpose, because of the bitter pelticle which surrounds the seed proper, lying under the outer black hull, but he had a process for obviating this difficulty. The seed would have an immense value for the manufacture of starch. The amount practically obtainable is forty-five per cent, and is more easy of extraction than that from the farinaceous Mexican corn; and from the ease of its manufacture, and the high price of corn, it is evident that the "*Imphee*" will be cultivated to a considerable extent for this purpose.

The remarkable vitality of the plant is shown by a statement made by Mr. Wray. He had a plantation of it on his estate in Africa, which he wished to remove to give place to a crop of arrow-root. The field was thoroughly ploughed at the end of the season, and the stumps removed; but the few which escaped the notice of his workmen shot up into great luxuriance of growth, and in two months and five days had attained the height of seven feet. As many as twenty-two stalks grew up from a single stump, and the juice of all these made as good sugar as the parent stem.

In our own country there have been similar instances during the past season. Mr. Browne, of the Patent Office, it will be remembered by those of our readers who saw the articles previously published in the Evening Post, states that five cuttings have been made in Florida from one set of stalks. In South Carolina, Georgia, Illinois and New Hampshire, three and two have been obtained; and we may safely calculate that as a fodder crop both the Chinese and these new African varieties will give us at North two crops of excellent nutritious forage.

Mr. Olcott, of the Farm School, asked if the coloring matter from the seed hulls could be procured in such quantities as to make it a profitable department of industry? Mr. Wray replied that as yet the matter had not been definitely settled. He had not supposed it would, but more extended experiment might prove to the contrary. The taint is abundant in the envelope of the seed of the Chinese variety of sorgho. Fowls which had been fed on the seed were found to have been tinted even to the cellu-

lar structure of their bones. Their dung was colored of a purplish hue, and could be readily distinguished in the yard from that of birds which had not partaken of the seed; but this peculiarity did not lessen its value as a food.—He had not tried it as a feed for horses because of its extreme high price; and when he went to Kaffirland the natives told him not to feed horses on it, as it made them “puffy.” Mr. Olcott exhibited specimens of ribbon, colored with the dye from the Hulls of the sorgho seed, and stated that he had scraped off some of the waxy effervescence from the stalk, and it burned with a clear flame. Mr. Wray, said this production would not be of consequence, as the small quantity obtainable and the tediousness of the operation of scraping it from the stalks, would much more than counterbalance any profit from its sale. He thought the computations made by Mr. Hardy, the Director of the Imperial Nursery at Hanima, Algiers, could not be considered as at all practically valuable.

The seed should be thoroughly dried before the stripping of the seed is attempted, and can then can be threshed out with flails in like manner to wheat, barley or other grain

Professor Mapes inquired if the sap in the stalks will sour on exposure to the atmosphere, as is the case with the Louisiana Cane, and if the crystalizable property was injured?

Mr. Wray stated that on one occasion he had been absent from his estate when the canes were ready to be harvested, and his Kaffirs, thinking he would return within a day or two, had cut up and stacked his entire crop. He was not able to return, however, until after the expiration of a fortnight, and he then found that about one inch of either end of the stalks had soured; so, without further loss of time, he had set his men to work to remove these portions, and when the juice from them was boiled down, it made quite as good sugar as any previous sample.

The Zulu Kaffirs put the stalks into pits which they dig in the ground, and preserve them perfectly for several months.

In regard to the density of the sap, Mr. Wray adverted to a trial which had been made in Martinique, upon the estate of the Count de Chazelle, the object of which was to decide the comparative densities of the sugar-canes from the celebrated Grand Terry districts and of Mr. Wray's *Imphees*, both of which had been grown by the Count. The result was that the latter

showed a density superior to the former by three and one-half degrees. The sugar cane gave 7 deg. Baume, and the *Imphee* 10 1-2 deg. This richness is quite remarkable, for ordinary Louisiana cane does not average higher than 7 1-2 to 8, if we remember aright, and it shows what we may in future expect from the introduction of this valuable plant to the domain of our national agriculture.

The quantity of juice to be obtained from the stalks was dependent upon the power of the mill. Count de Beauregard had sixty per cent; but his mill was an imperfect one. Under favorable circumstances as much as seventy per cent. might be calculated upon, and of this seventeen per cent. was crystalizable sugar. The quantity of sugar per acre he estimated at three thousand pounds, but both quantity and quality would be controlled by the perfection or imperfection of processes of manufacture. Mr. Wray had discovered the only successful method of obtaining the sugar which has been made public. M. de Montigny, Count de Beauregard and others, had sought in vain for it but he had been fortunate enough to arrive at a complete success, as was proved by the samples of sugar which he exhibited to the Club.

Several specimens were shown. One of them is not purged of the molasses, because Mr. Wray desired to prove that the syrup from the *Imphee* possesses no unpleasant flavor. We tasted it and found it very pleasant in flavor, reminding one of maple sugar. Another sample had been purged; it presented the appearance of fine clayed Havana. The crystals are firm and sharp, and the taste is not different from good Havanas, which are now selling in the New York market at 11 and 12 cents, by the quantity.

If Mr. Wray is not amiss in his calculations as to the yield per acre, or if we can but obtain one thousand pounds, what an immense gift to American Agriculture is he about to make? Our rapidly waning crops of sugar is at once exchanged for the greatest abundance, and a vast source of wealth is opened for our farmers. He has already expended some twenty thousand dollars in his experiments and attempts to introduce it into Europe, and it is to be hoped that his visit to our country may prove remunerative in proportion to the importance of his discovery to ourselves.


Inquiry was made by a gentleman present in regard to some suitable crushing apparatus.—Mr. Hedges, the inventor of the Little Giant Corn and Cob Mill, said he had invented a mill for this purpose, which he had exhibited at the recent Fair at Washington, and received a silver Medal. He had planted some five hundred hills of seed in a hot house in Philadelphia, and would be able to crush the canes and make sugar as early as June 1st, which would be in ample time for the next fall's crop. His mill, of which he showed a cut, consists of three vertical iron rollers, of great strength, one of which is firmly anchored in a beam set in the ground; the other two are attached to the platform, so as to revolve simultaneously with the progress of the horses. The canes are fed to the rollers from a feeding table, the expressed juice runs down through a shoot, and the bagasses drop out at the opposite side.

Monsieur Augustus d'Onville, of France called the attention of the club to a new corn-planter, of his own invention, and a committee consisting of Messrs. Field, Pardee and Waterbury were appointed.

Horace Greeley spoke of Mr. Hedges' new steam boiler, for cooking food for stock, &c., and moved the appointment of a committee to go to No. 197 Water street to examine it. The chair appointed Mr. Greeley and Messrs. Pardee and Olcott on this committee.

The subject of the day—Manures—was next in order. Professor Mapes addressed the club upon the varied excellence of manures in a more or less progressed condition, claiming that if phosphate of lime, carbonate of lime, magnesia, or any other plant ingredient had passed through the animal economy and should then be applied to nourish plants, it would give a greater product than a substance of like chemical constitution, but less fully refined organism: that there was a regular progressive refinement in the ultimates, from their first departure from the original rock, to enter into the constitution of plants and animals, each time being more improved, and capable of sustaining a higher growth of vegetable.

Dr. Waterbury differed from the views of Professor Mapes, and offered some remarks, upon the conclusion of which the club adjourned.

 Read our advertisements.

HOW TO APPLY LEACHED WOOD ASHES.—Editors Country Gentleman:—I have been a dealer in ashes for twenty-five years, and when farmers have come to me to purchase ashes, I have often heard them express their opinion of ashes and experience in using them. In this way I have obtained some information upon the subject, as well as from my own experience in using ashes. I am of opinion that ashes vary much in their results on different soils, and vary as much upon the same soils apparently, in different places. When skillfully applied to the right kind of land, they will pay at twenty-five cents a bushel where hay is worth twenty dollars a ton. From one to three hundred bushels can be put on an acre at one dressing with profit. They should always be spread broadcast upon land that has been plowed and harrowed once. One or more harrowings should follow after the ashes are spread. Great care should be taken to spread the ashes evenly; all lumps should be pulverized. When applied to the right kind of land ashes are a very lasting manure.—A farmer must not expect to get all the benefit of a dressing of ashes, or if he pays twenty-five cents a bushel to get his pay back, in one or two years. Therefore it is necessary to have a rotation of crops all of which would be benefitted by leached ashes. Perhaps as good a one as any is to apply ashes, and sow spring grain with clover and herds-grass—reap, and mow or pasture one, two or more years—then corn. If there was but one hundred and fifty bushels of ashes applied in the first place, after corn apply one hundred and fifty more, and then go round again with the rotation. If three hundred bushels per acre was applied in the first place, go round with the rotation twice before applying any more ashes, and then not more than one hundred bushels per acre. Ashes succeed best generally upon gravelly and sandy land. Land that is highly manured with stable manure should be dressed oftener and heavier with ashes than that upon which ashes is the only manure applied.

E. G.

BOIL YOUR MOLASSES.—When molasses is used in cooking, it is a very great improvement to boil and skim it before you use it. It takes out the raw taste, and makes it almost as good as sugar. Where molasses is used much for cooking, it is well to prepare one or two gallons in this way at a time.

Peat and Charcoal as Absorbents.

MR. EDITOR :—I noticed in your paper of the 21st ult., an article from the *Genessee Farmer*, headed, "Peat and Charcoal as Absorbents of Ammonia," on which I offer you a few remarks.

It seems to me that the writer, while correct in the facts that he has stated, has made confusion in the arrangements of them, and is incorrect in his deduction.

The power of substances to absorb gas of any kind, is one thing.

The power of substances to take gas from other bodies, with which it is already combined, is another thing.

The power to stop or retard fermentation, by which any gas is produced or set free, is a third thing.

Yet these three things seem to be confounded by the writer of the piece in question, if not by the authorities he cites, and hence this inference given by him, that peat is much superior to charcoal in its power of absorbing ammonia, is not to be relied upon as a correct deduction from the premises given.

The experiment of Sausure referred to, upon which it is said, most of the adherents of charcoal as an absorbent of ammonia base the recommendation of it, does, it is true, represent the power of charcoal in its driest and purest condition, in which state it was found by this experiment to absorb the enormous amount of ninety times its own value of ammonia. Now it would seem that those who recommend charcoal on the strength of this experiment being aware of the condition upon which the experiment was made, would not have expected the same actual result from that substance in a different and less active state, and, even with a considerable deduction on that account, the absorbing power of charcoal over ammonia, would still be very great, and very valuable. Are there any experiments with peat, made in a similar way, that is placed in a dry state in contact with ammoniacal gas, to show that its power of the same kind, is equal, or nearly approaching to that of charcoal. None are cited, and I do not remember ever to have seen any.

The article says that the charcoal which is used for this purpose, has generally been exposed to the atmosphere for some time before it is used, and its pores are filled with air and moisture.

Now it is especially admitted that the attraction of water for ammonia is superior to that of charcoal; if so, it would be the natural inference that damp charcoal would absorb even more ammonia than that which was dry, consequently, that moisture, previously absorbed, will not impair the power of charcoal as an absorbent of ammonia. With regard to the presence of air in the pores of charcoal having the effect of injuring its power as an absorbent of ammonia, the writer of the article makes no statement or argument, and it does not seem necessary to enter into any discussion of the matter further than to observe that peat is an absorbent of moisture and air as well as charcoal, so that in whatever way these elements affect the absorption of ammonia in charcoal, they will in the same way affect it in peat, and unless the absolute power is greater than that of charcoal, its comparative power when affected by the presence of these elements cannot be greater, and that its absolute power is greater, or even equal, has not yet been shown.

As it was admitted that the attraction of water for ammonia, was superior to that of charcoal, it is not to be supposed that charcoal will effect any change in a watery solution of ammonia; it will merely absorb so much of the solution as will find its pores, and will hold it as it does any other moisture in considerable resistance to the power of evaporation. When the absorbing power of ammonia is spoken of, I have always supposed that the ammonia was to be presented to it in its free state, as a gas, and not in combination with water.

Reference is also made to some experiments of Dr. Davy, in which Peat and *Peat Charcoal* were mixed with fermenting urine, the result of which was, that the quantity mixed with peat charcoal, lost three-fourths of all the ammonia it contained, while the same urine, mixed with peat not charred, lost no ammonia by several days' exposure to the atmosphere."

This statement is far less conclusive in favor of the absorbing power of peat than the writer seems to suppose. In the first it was only *peat charcoal* that was used, while, if I recollect rightly, *wood charcoal* was employed in Sausure's experiment, and it is very possible that the power of the two substances may vary considerably, at least it has got to be shown that it does not.

The more important objection lies, however, in the action of other substances. Urine does

not contain ammonia in a free state when first voided. Ammonia is but one of the products of its decomposition, or of its fermentation as it is here called. Now charcoal has but little, if any power of checking this fermentation or decomposition in readily fermentable mixtures, though not so liable to it in its own substance. When mixed with the fermenting urine, it would merely contain so much of the ammonia as its own pores, with the aid of the water in the urine would absorb, while the rest of ammonia generated by the fermentation would escape.

Peat, on the contrary, is a very compound body, containing various elements which have a powerful action in preventing, and even stopping fermentation. This being done, no ammonia was formed, and consequently none escaped, and the urine remained mixed with the peat, and undecomposed, and the experiment is no proof at all of the power of peat to absorb and retain ammonia. Thus the inferences the writer of the article would draw from the experiments he has cited, seem to be unfounded.

Granite Farmer and Visitor. S. W.

Breadstuffs in Europe.

The Mark Lane (Eng.) Express, of 5th Feb., the most reliable source of information in Great Britain on the subject, presents the following review of the British Corn Trade, for the year 1856 :

"Another year has just closed upon us, and placed its important records on the scroll of Time. Its commencement was characterized by the lodgment of the allied armies on Russian soil, with gigantic preparations for a renewal of the colossal struggle in the opening spring: all pacific counsels being well nigh considered impossible. But on the elapse of seventeen days, a rumor became general that Austrian intervention had commenced, which however, was as generally distrusted. Still, these reports coming when prices were at about their highest point, viz., 76s. 10d. per quarter, produced an immediate effect throughout the country, from which the markets did not recover till the smallness of stocks towards harvest, and the heavy and devastating rains which then occurred, sent the averages up to 77s. 10d. on the 7th of August. From that point, with fluctuations varying from 1s. to 5s. weekly they have at last receded to 59s. 8d. per quarter. The reduction traceable to the effect of peace amounted to about 10s per qr., and

transpired in the course of three weeks in February. We estimate the remaining difference of 7s. per qr., to the generally inferior condition and damage of the last year's crop. The spring opened with some fears as to the ravages of insects on the growing plants; but these reports happily applied to certain localities only, and there was little uneasiness on any score, except as to the holding out of stocks till harvest, even with the most liberal importations from America and the opportune aid of Russian supplies. On this head we admitted our doubts, and did our best to secure a sufficient supply; while the fact that the weekly sales noted at the close of August amounted to no more than 40,895 qrs. fully justified the views we entertained, for they were then little more than half the quantity of the previous season. As harvest time drew nigh, an almost tropical heat produced a simultaneous ripening of the grain throughout two-thirds of the kingdom. The first gatherings had an Australian dryness, and a complete change to lower prices was in prospect, when down poured the rain upon the ripening corn. Yet while we deplore the measure of injury done especially in Scotland and the North, the nation pays but a moderate price for the necessaries of life; and our agricultural friends in the South, though somewhat disappointed are not without fair remuneration. The stores of Russia availing till the new and abundant crop of America was gathered, millers have been at no loss as to the management of our own crop, which hitherto being only worked off in moderate quantities will be more serviceable after March. As to future prices we are inclined to consider them more susceptible of improvement than otherwise—the whole world having commenced its consumption with little if anything beyond a year's produce as its dependence. The crops of Spain and Portugal have proved an almost entire failure, those of Italy scarcely reaching to its necessities, France being certainly short, as well as Belgium and the Baltic. Russia itself not over-abundant, and America alone in a condition to meet serious claims, which have been so freely met already, that New York has not been so bare for years. Our own crop too, as a whole, being deficient, notwithstanding the extended growth of wheat, there promises now to be but little surplus at the season's end; while, therefore, we indulge in no apprehensions, we feel reminded of our dependence upon that Being who feeds the sparrow and sustains the world, and congratulate our common humanity that the 'goodness of God endureth continually.'"

Sugar Cane Mills, Boilers, &c.

The wide spread cultivation of the Chinese Sugar Cane gives rise to a general desire for more particular information respecting crushing mills, boilers, &c., and we, therefore, gladly avail ourselves of the kindness of a friend to furnish the following statement from a manufacturer of Mills, Mr. A. N. MILLER, of Savannah, Georgia.

1st. Cost of a 2 roller, vertical mill, 18 inches long and 24 inches diameter, \$100. This includes rollers and bearings. The addition required will be to elongate the shaft in the driving roller so as to allow for a spur bevel wheel, to be placed on when steam power is to be used.

2d. The cost of a 3 roller will be \$15, including bearings.

3rd. A 3 roller horizontal mill of the size named above, with sides, frames, and pan, will cost \$350. We make a snug 3 roller mill, roller 12 inch diameter and 2 feet long, with frame and pan, complete spur and pinion, for horse power, at \$225. These have proved large enough to answer a good purpose in Florida for 200 or 300 acres, and will keep a battery of five pans supplied.

4th. We do not make the pans and kettles. Mr. B. H. WEED, of Savannah, has them on hand.

5th. A vertical 3 roller mill, with cast frames and pan, will cost the same as a horizontal (\$350,) which (horizontal) is much preferable.

Another gentleman of Savannah, writes:

"I have seen Mr. Weed, and the prices of Boilers are as follows:—50 gallons, \$13; 60 gallons, \$15; 80 gallons, \$18; 100 gallons, \$21; 150 gallons, \$35."

A late number of the National Intelligencer also furnishes the following:

SORGHO SUCRE—HOW TO MAKE SUGAR.

The introduction of this article into our country has called for an exercise of our mechanical talent to bring forward something to meet the experimenting demand for new sugar mills. In passing through the Institute Fair my attention was attracted to a singularly constructed revolving machine running upon three rollers; but, upon close examination, I found it to be a Chinese Sugar Cane Mill, invented by Mr. Hodges, of Cincinnati, Ohio, who has been so successful in improving the Little Giant Corn Mill, and

has also, lately, invented a most complete agricultural steam boiler, one of which is also in operation at the Fair.

This Sugar Mill is certainly of a most novel construction. It consists of three vertical cast iron rollers, supported between strong cast plates, resting upon a triangular wood frame about eight feet on its sides. Under each corner is a large truck wheel so adjusted when working as to revolve in a circle, the shaft of one of the rollers occupying the centre of the frame and clutched fast to a timber below, preventing its turning, while the other two, being geared into it at the top, are made to revolve around it as the whole frame is turned by the horse. On one corner is a feed table, from which a man feeds the cane, which, having been acted upon by the two rollers, passes out upon a table on the other corner, which is removed as often as a sufficient quantity accumulates. The juice passes down through the bed plate and is received in a vessel made for that purpose. In a few minutes the truck wheels can be changed and the clutch removed, and the whole is ready to travel. There being no heavy beams to raise, posts to set, or over-head sweeps to provide, and at the same time so easily transported from place to place, it will prove to be just the thing needed by our farmers at this particular time, and from the cheapness of the article it must meet with ready sale. All interested in this line are advised to give it an examination.

Southern Cultivator.

Preparation of Tobacco for Market.

In late numbers of our paper, the attention of planters has been called to the advantage of paying more attention to the manner of preparing their crop for market, as the appearance of the sample has frequently as much to do in effecting a good price as the quality. From a circular from D. T. Williams, Esq., a tobacco factor in Richmond, we copy the following advice upon this subject. He says that the stock is probably very decidedly less than on first January, 1856, and the demand for all grades greater, and that tobacco will rule high during the present year. He adds:

"As far as can be ascertained, most of the crop now on hand was cut green; this portion of the crop should be prized in plant order and quite hard. This will, in a great measure, neu-

tralize the bad effects; and for such qualities, as also Lugs and Inferior Grades, I would advise early deliveries. That intended for shipping should be carefully assorted, neatly managed, and prized very straight, in good dry order, to weigh 1,500 to 1,650; this adds very materially to the sale of it, and this class will sell at any time during the year. (Have your hogsheads made very strong.) That designed for manufacturing purposes, will command fine prices especially the Yellow Wrapper, a fair portion of which it was my good fortune to sell last season. Filling classes should be prized in safe order, and to average 1,200 pounds. The Yellow Wrapper should be managed with great care, and nicely packed in small tierces or boxes, to weigh from 200 to 400 lbs., the prices for which may be safely estimated at from 40 to 100 dollars per 100 lbs. Owing to the limited supplies of this class heretofore received in this market a large number of our manufacturers have been debarred from using it; but I am gratified to state, that a very decided disposition is manifested to increase this branch. It is considered a fair estimate that the Lug portion of a fine crop does not exceed one-fifth, consequently, I unhesitatingly recommend to planters, having fine crops, to decline offers of 20 dollars per 100 pounds, average, and for very fine crops, with a great deal of Yellow Wrapper, I would advise them to decline 25 dollars. These are not idle calculations, but facts based upon my actual sales of last season, and the prospect this season is decidedly more flattering. The advance in Manufactured Tobacco is very decidedly greater in inferior grades. This truth should be conclusive, and serve to check the disposition to average sales; and I trust my friends generally will let nothing deter them from trying this market this season. Deliver the fine yellow in May and June, July at farthest. The market may now be considered as opened. Only inferior grades are offering, which have commanded high prices."—*Ex.*

RECIPE FOR MENDING CHINA.—From an English Almanac we cut a recipe for mending china, a long time since, and the opportunity having occurred for trying, we found it admirable, the fracture scarcely being visible after the article was repaired. It is made: take a very thick solution of gum arabic in water, and stir it into plaster of Paris until the mixture becomes a vicious paste. Apply it with a brush to the fractured edges, and stick them together. In three days the article cannot be broken in the same place. The whiteness of the cement renders it doubly valuable.

From the Homestead.

Tobacco Sheds—How they should be built.

Messrs. Editors:—In your paper of the 19th of February, a correspondent wishes to know the best plan for a Tobacco Shed. From my experience in curing tobacco, I think the best plan is: First to put up a good frame; shingle the roof, for if covered with boards, it will leak and greatly injure the tobacco.

If you design to build large, set the posts on stone; but if no larger than a common sized barn, set them on sills, the sills on stone or brick from two to three feet from the ground, so as to give the air a chance to circulate under and through the tobacco. There should be placed, either on the roof or at the gable ends, ventilators to give at all times while the tobacco is curing a free circulation of air.

My plan for the ends is the following. Take scantling from two to two and a half inches square, frame the corners together and then take inch boards for slats, place them in the frame at proper distances and by making round tenons on each upper end of the slats and inserting them in each side of the frame, making a kind of blind. Fasten the slats together with a cord, wire or leather strap; and with a cord and small pulley above, the blind can be opened or shut very easily when occasion requires.

If every second or third board is hung on hinges the wind will sometimes blow down the tobacco while curing and consequently destroy a considerable quantity.

Another objection is, when you want to dampen tobacco for stripping if the doors on the sides are open and it should rain at the time and "beat in," it would thereby cause a further loss, as tobacco, when once rained on cannot properly be reclaimed. If others have better plans I should like to hear from them.

G. B.

Windsor, 1857.

RADISHES.—If any of your readers, who cannot raise good radishes, on account of worms, or suitable soil, will strew common wheat bran, one inch thick, on any good soil, and hoe it in, and then plant their seed, they may eat as good radishes as anybody can grow.—*Rural New Yorker.*

Deal with the earth as you trade with men and farming will be as profitable as you can wish.

SPOILING POTATOES.—Is it any wonder that we rarely if ever see such a thing as good potatoes in this city, where every dealer takes the most effectual way in his power to spoil them for food? Is it possible that people who grow potatoes, or those who are constantly dealing in them, do not know that they are always injured by exposure to the light, and if the exposure is continued long enough, they are utterly ruined? So great is the change that a tuber, naturally mealy, nutritious and palatable, is changed by exposure to light, and by that alone, during its ripening period, to a green, bitter, watery mass; and every hour that a potato is exposed to the light, after taking it out of its dark bed where it grew, it is injured in some degree, tho' not actually spoiled until it has been exposed for a long period. There is no way of preserving potatoes fit to eat except by keeping them in darkness. Let this be remembered. Let every consumer of potatoes in this city keep the truth here stated constantly in view, and we shall have better ones to eat, because we shall then be able to compel dealers to keep their stock where it is not continually suffering injury. If we all know that every corner groceryman is poisoning this universal article of food, we shall compel him to stop the foolish practice that now prevails, of keeping the potatoes he has for sale in baskets and barrels, standing out in the street, fully exposed to all the influence of light and drying winds, by which they are so deleteriously affected.—
N. Y. Tribune.

CORN MEAL FOR MILCH COWS.—In the fall of 1852, I began to feed three farrow cows for the purpose of supplying a milkman in this vicinity with milk for market. I had a few beets and turnips with which I begun, and as I designed the farrow cows for the butcher in the spring, I commenced giving them meal from corn and barley, some ten bushels of old grain; then corn meal alone, increasing till they ate one peck each a day. I tried it cooked and raw, wet and dry, mixed with cut fodder, composed of hay and straw, and corn stalks cut up together, varying the amount of each as convenience might suggest, (as I think all animals require a variety.)

Now for the result. The cows increased in milk, giving more on the above feed than they had done on grass during summer. Contrary

to my expectation, they did not improve very fast on the food given, and I was obliged to dry them up early in March; to get them fit for the shambles. My cows that were coming in in the Spring, had two quarts of corn meal each per day, and they also gave liberally.—The milk being sold daily, gave an excellent opportunity for testing the amount given at the time. I made up my mind that corn meal was the best for milk of any food for the milch cow, and still think so, if good rich milk is wanted. It has been tried considerably in this vicinity, with the same results as here given. I feed cut feed, but I do not think that would vary the result; with me, if the cows get their daily allowance, I get the returns.—*Ohio Wool Grower.*

COOKING WITHOUT FIRE.—A patent has been recently granted Mr. Albrow, of Buryhampton, N. J., for a culinary contrivance for cooking without fire. The required caloric is generated by the employment of lime and water.—Between these two substances there is a strong chemical affinity, and when they are brought in contact in the proper proportions, they unite with such rapidity and energy as to develop an intense heat. No decomposition takes place, and therefore no gas escapes; thus heat is produced without combustion. The inventor turns this phenomenon into a highly useful purpose in the present improvement. During an experiment made in our office the other day with one of these contrivances, we cooked a slice of ham, stewed a dish of apples, baked some other apples, and boiled a quantity of water, all at once, at a consumption of perhaps a quarter of a cent's worth of lime. The inventor makes several different sizes; the largest does not exceed a lady's bandbox. Among them is a dinner pail pattern so arranged that the mechanic when noon time arrives, has only to pour a half pint of water in the pail, in order to cook a warm dinner. The lime and edible are of course arranged at home.—*Farm Journal.*

How to Raise Onions.—Good onions may be raised with very little trouble, if they are watered two or three times with strong tobacco water, when four five inches high, or at other times, if the maggots are devouring them. We have tried this remedy several times with great success.—*N. E. Farmer.*



Horticultural.

Cutting Grafts, and Grafting.

BY L. DURAND.

The subject of improving and growing fruit is one which should claim our special attention every season, as the time comes around: and as the Apple stands at the head of all fruits with the farmer, we will give our attention to this point now. It may be, and often is, necessary to repeat, in the course of a series of years, the same general plans in principle in regard to orchard and fruit growing generally, of which we may do in this instance. But our idea is, in this article, to confine our attention to preparing grafts and grafting, though we may allude, in connection, to orchard culture.

Apple grafts may be cut any time after the leaf falls in autumn until before the buds start in the spring, and these may be kept a year or more, though this is not often necessary. But in this climate, any time from the 20th of February until the 1st of April, or before the buds swell, will answer to cut Apple grafts. The grafts should be cut from the outside of the tree, thrifty shoots of the previous or present season's growth, from six to twelve inches in length, as may be. Of course, the several varieties should be tied up in separate packages, and also labeled. This may be done by shaving down a large scion in each bundle, an inch or two in length, and then marking in notches or in numerals, as Baldwins, No. I, Greenings, No. II, Spys, No. III, Spitzenbergs, No. IV., &c., at the same entering the names and numbers down in a "fruit book," for future reference at grafting time. This plan followed out will prevent all mistakes in mixing up grafts, so that each kind may be found when wanted. After the scions are all gathered and labeled,

they should be packed away in the cellar in a lot, in rugs, or they may be packed in a wool-len cloth kept moistened in a lot, in a cool part of the cellar. Moisture will not hurt scions, but the object is to keep the scions in their natural state, as when cut from the tree. If the scions are kept three or four months, and quite moist, as the warm weather increases the buds will push out sometimes half an inch in length or more. In this case, the buds should be lopped off close, when the scions are set in the stock. Sometimes such scions do well, but they often shrink and die out after a few days of hot weather. On the other hand, scions that have bark well shriveled, when set in stocks that have the leaves well started such scions in a few days will swell out the buds and grow finely. Still it is the safest way to have the scions just right, and if they are to be kept until warm weather, they require a good deal of attention to keep them so.

Some grafters cut and set the scions the same day; this plan will sometimes do very well, if the grafting is done very early, but the safest way is to have the scions cut as we have named above. As to the time for grafting, it may be done in this climate any time from the 15th of April, to the 15th of June, or later as may be, more depending on the character of the scions than in the season for success. We have had as good success with those scions set as late as the 10th of June, as with those set earlier in the season; yet it requires a little more care in sawing off the stock, to prevent barking, &c., in late grafting. One advantage, in late grafting large trees, is, that you will only get a short growth the first season—say from six inches to twelve or fifteen inches growth. and the scions will not be so liable to break off by wind and hail storms the coming winter, as where the scion get two feet or more in growth by early grafting. Still early grafting has its advantages, and this work generally should be done in a month from the middle of April to the 20th of May, or by the time the blossoms are well out. Now, as to the manner and kind of grafting to be done on large stocks, the common "cleft grafting" is the best, although this is often done in a bungling manner by green hands. In grafting large trees, to have this work done in a business-like manner, requires three hands at least: namely, one to saw off the limbs and pare the stocks, a second one to set the scions, and a

third one to put on the wax. While one or two hands are sawing off and paring the stocks, the third one may be cutting and sharpening the scions, so that no time need be lost. The scions may be cut from two and a half to three inches in length, sharpening the wedge of the scion an inch and a half, leaving an inch and a half or so of the scion above the stock after it is set. One side of the scion should be left a little full of timber in sharpening, and this side should be set the outside of the stock. If the scions are large, as some will be, a shoulder may be cut on the scion, but generally this will not be necessary, as large scions may be pared down pretty thin, and then set in large stocks. Some grafting "bunglers" we have seen, will leave their scions sticking up above the stock, three, four, and five inches long; this is a bad business, in nine cases out of ten if they live they will get broken off by winds and birds. There it looks again as though the grafter expected his scions to have apples by the "Fourth of July;" at least a wrong calculation. As to the size of the stocks for grafting, those that are about the size of a hoe handle, or from an inch to an inch and a half diameter will answer best. Some grafters saw off limbs two and a half inches in diameter, and though scions will usually live and grow in such stocks, yet it takes a longer time for such stocks to heal over; then the stock often pinches the scion so tight as to kill it. So we prefer to go two or four feet further out, until we find the limbs of a convenient size to saw off. In grafting a large tree, go first into the top so saw off, throwing the bush over, outside, and down out of the way. Care should be taken to saw each tier of under limbs at a distance of from two to four feet out beyond the limbs alone, so that when the grafts get well started they will not grow up into each other, but will have room to spread. Of course, two scions should be set in a stock, usually one scion if they live will be enough, but with care can be retained if wanted as may be.

Most grafters now, use a chisel and a wedge combined, to split and open the stock, with a small hammer to strike. In absence of the chisel, a half worn butcher knife, and a small steel wedge and hammer will answer a good purpose to split the stocks and set the scions. A fine edge and stiff back, some such as joiners use to saw clapboards, should be used to saw the limbs, and a good pruning knife to pare the

stocks. The grafting wax should be made of seven parts—namely, four of resin, two of beeswax, and one of tallow, melted together in an iron kettle, and when it has become thoroughly dissolved it may be poured into cold water, and then pulled like shoemaker's wax in rolls; or it may be left to stand in the kettle, and pulled and washed as wanted. This latter plan we prefer, as the iron kettle will draw the rays of the sun, and soften the wax so that it can easily be worked; so that warm, sunny days, should be selected for grafting in the early season, not only for comfort, but to melt the wax. The inside of the hands should be well greased to prevent the wax from sticking while working it, and also when putting it on to the stocks. First, put a good cap of wax on the top of the stock, covering it well, and down to the sides, covering the split well to keep out rain and moisture. Some grafters spread on the wax thin, as some will butter on bread where it is thirty cents a pound, but there is nothing gained by this policy. When the wax is made after the above rule, it will not melt and run in the hottest weather, neither will it crack and come off in the coldest weather, but it will remain on the stock for two years, or until the stock is entirely closed over where it is well covered at grafting.

When large trees that are thrifty are grafted, it will be well to take off most of the branches, leaving the limbs pretty much like bare poles, though a few branches and shoots may be kept to draw up the sap. Where trees are large, and the tops and branches are a good way up from the ground, it will be a good plan to head the trees down, that is, saw off the main branches of the tree at a convenient distance down or where the branches start out from the trunk, so as to form a new head by the sprouts.—These sprouts or shoots may be budded the first or second season, or you may wait three or four years and then graft the stocks. If the trees are very large and slow growers, a part of the tree, say the south half, may be headed down first, and then after two or three seasons' growth of sprouts, the north half may be taken off in the same way. Managed in this way, the trees will continue to grow unchecked; whereas, if the whole top were taken off at once, the sudden check of sap might kill them. If an old tree is sound at the trunk, no matter how many dead limbs there may be upon it, the sprouts or thrifty limbs may be grafted and the dead wood taken off, it will pay.

If such orchards or trees are unthrifty from neglect as they generally are, they may be first grafted and then pruned, afterwards scraped and washed; and then the soil should be plowed for crops and heavily manured, especially under the trees. Crops of corn or potatoes may be raised for two or three years to advantage, or till the soil becomes well shaded again by the growing sprouts and grafts, the soil to be well manured with each crop. The scraping should be done directly after a heavy storm by a "tree scraper," to be had at the implement stores. Beginning at the upper branches and scraping off all the moss and loose bark, and so down the trunk to the ground. After this, a washing of strong potash or lye water may be put on by a large white-wash brush. Managed in this way, the old neglected trees will put on a new dress, while the bark will present a smooth, thrifty appearance. When large trees are headed down and large limbs are taken off, the stumps or wounds should be covered with gum shellac dissolved in alcohol to the consistency of thick paint, and put on with a brush. On this point most cultivators understand that the wounds should be covered by some kind of composition, where large limbs are taken off. But with judicious yearly trimming, but few or no large limbs will need removing, and so when the pruning is done in the summer or early fall with only small limbs taken off, the shellac or composition may be dispensed with. Where large trees of slow growth have been grafted, it may be well to let all the sprouts grow for three or four years, only cleaning them away around the grafts. This will cause the tree to bring up the sap in a measure, otherwise cut off by a removal of the top. Where large single trees standing in pastures or meadows are wanted for shade, the top of the tree, two-thirds down, may be cut off and grafted, leaving the large branches and boughs for shade until the grafted top is well grown, so as to make shade when the lower limbs can be grafted. In this way you can renovate your scattering trees, and at the same time retain the advantages of shade for men and animals.

[N. Y. Horticultural Review.]

Soils best suited for the various Garden Vegetables.

A good many readers who are desirous of

forming a vegetable garden, are yet at a loss how to prepare their soil to suit the various kinds of vegetables they may wish to cultivate. As some slight guide, yet reliable, so far as it goes, we offer the following:

ASPARAGUS.—Ground should be light, yet rich; a sandy loam well mixed with rotter dung or seaweed, is recommended. A good quantity of dung, trenched twelve or fifteen inches below the surface, is right.

BEANS.—The bean is propagated to the best advantage in a stiff, moist loam, with a considerable proportion of clay, although it will grow well on any properly prepared garden soils. Mr. Loudon gives the following directions for its culture:

For early crops, one pint of seed will be requisite for every eighty feet of row; for main crops two quarters for every 240 feet of row; and for late crops nearly the same as the early. Plant in rows two and a half feet apart, for the smaller, and three feet for larger; the small, if beans two inches deep, and three inches distant in a row; the larger three inches deep and four inches distant in the row.

BET.—For a bed four and a half by twelve feet, one ounce of seed is requisite. The soil in which it naturally delights is a deep, rich sand, dry and light, rather than moist. Transplanting will not answer where the object is a large clean root.

CABBAGE.—Every variety of cabbage grows best in a strong, rich, substantial soil, inclining rather to clay than sand; but it will grow in any soil if it be well worked, and abundantly manured with well rotted dung.

CARROT.—The carrot requires a light, mel. low soil, mixed with sand, and should be dug and trenched one or two spades deep, breaking well the lumpy parts, so as to form a porous bed and even surface.

CELERY.—Celery delights in a soil rather moist, rich in vegetable mould, but not rank from new rotted dung.

CUCUMBER.—In our climate cucumbers will grow in any soil, though not with the same degree of vigor, provided they be supplied with a sufficiency of heat, light, water, and air. It is an object with many market gardeners and others, to produce cucumbers at an early period, and for this purpose artificial heat is necessary. For early forcing "one-third of rich top spit earth from an upland pasture, one-half o

vegetable mould, and one-sixth of well decomposed horse dung with a small quantity of sand.

LETTUCE.—All the sorts grow freely on any rich, mellow soil, where the sub-soil is dry. For the most part raise this vegetable as a principal crop, on beds set apart for it and keep the varieties separate; but to multiply the supplies, throughout the summer, portions may be sown thinly intermixed with onions, carrots, and spinach, which will come off before the lettuces are fully grown.

MELONS.—The melon will succeed in any strong, unexhausted loam, rich in vegetable matter, with a mixture of sand, but not too light.

ONION.—The onion, to attain good size, requires rich, mellow ground, on a dry sub-soil. If the soil be poor and exhausted, recruit it with a compost of fresh loam and well consumed dung, avoiding to use stable dung in a rank, un-reduced state. Turn in the manure to a moderate depth; and, in digging the ground let it be broken fine.

PARSNIP.—The soil should be light, deep, and free from stones. It should be dug or trenched before sowing, one good spade deep at least, being careful to pulverize the soil thoroughly, that the roots may have no obstruction to prevent their running down long and straight. If the soil be proper for them, it is said that they will not require much manure; and what is used should be perfectly decomposed, or, if recent, be deposited at the bottom of the trench. They do not impoverish the soil like onions.

PEAS.—The soil should be moderately rich, and the deeper and stronger for the lofty growers. Peas are not assisted, but hurt, by un-reduced dung recently turned in. A fresh sandy loam, or road-stuff, and a little decomposed vegetable matter is the best manure. The soil for the early crops should be very dry, and rendered so, where the ground is moist, by mixing sand with the earth of the drills.

RADISH.—The soil should be light and mellow, and well broken by digging. A scattering of the smaller growing sorts may be sown among other crops, such as spinach, lettuce, and onions. It may also be drilled between wide rows of beans, or on ground intended to be sown with a late spring crop.

TOMATO.—To have an early crop, sow the seeds in a dry and warm soil, and sheltered sit-

uation, in October, and cover during the winter. For summer and fall use, sow again in May, and water freely. The distance between the plants should not be more than two feet.

TURNIP.—Sand or gravel, with a mixture of loam, produce the sweetest and best flavored roots. It should be made fine and not too rich, lest the turnips be rank and ill-tasted.

We have given these brief directions, partly to call attention to the fact that the season is approaching when ground should be prepared, garden set in order, seed procured and everything made ready for a vigorous gardening campaign—a campaign not so laborious or expensive as a military campaign, nor so detrimental and evil in its consequence, for the fruits of it are health, the rich products of the earth, satisfaction in enjoying the fruits of our labors and sweet contentment.—*Real Estate Register.*

The Strawberry.

EDITORS SOUTHERN CULTIVATOR:

Your correspondent, "J. F. M." must have read the opinions of some wise Eastern and Western Botanists, who say: "there are no pure staminate or pistillate plants," though a man half blind can distinguish the blossoms at the distance of 10 or 15 feet. At an early day we had male and female plants only. I had an eighth of an acre in Strawberries, and had to go to market to buy fruit of an illiterate market woman who never read in her life, but raised five times as much fruit on the same space of ground as others could. Aware of this, her neighbors, when she thinned out her plants in the fall and threw them on the road where they travelled, picked them up and planted them; and the result was, they never bore a single berry. The old woman's object was to deceive them.

When I was green enough to believe in the old woman's sexual character of the plant and published it, my doctrines were ridiculed beyond measure. But our market gardeners, aware of the old woman's success, became converts, and the fruit went down to one third its former price. From seed nearly all are pure male or female plants. A portion perfect in male organs (stamens,) and more or less perfect in female organs (pistils,) and bear more or less perfect fruit, more or less deformed ones, and more or less entirely barren. These, herma-

phrodites, are the only kind known in Europe, till enlightened by our market woman, as the great Linnæus and his followers held the doctrine. Wise men could not be expected to believe an ignorant market woman wiser than themselves. I would advise "J. F. M." to get our seedlings, the Prolific, McAvoy's Superior, and the Extra Red. The first is hermaphrodite and the only plant we have ever seen that bears a full crop of large, perfect fruit. It not only is attentive to its own flowers, but to all flowers in its vicinity, and pistillate plants require no other impregnator in the garden. The males, having no children to attend to, run at random, and soon kick all the women out of bed. If the Prolific should do this, the cultivator would sustain no loss, as no pistillate is as vigorous a grower. None bears a larger crop or larger fruit. McAvoy's Superior I deem the best of all pistillates. But she is not a Mormon. She is not willing to be one of the hundred wives, even to the head priestess. If far separated from plants with male organs, many berries are imperfect. I should plant every third bed or row with the Prolific. Many deem a rich, loose loam, best for Strawberries. I mix with my rich garden mould one-half of the poorest and stiffest clay I can find. The result is, plants of much larger growth that stand dry weather, bear more and larger fruit, and the plants are never thrown out of the ground in the spring when the ground thaws. The Extra Red is not equal to the Prolific and Superior in quality, requiring more sugar. The fruit is all of good size, of great beauty of color, and an immense bearer, and very valuable as a market fruit. The Superior, if taken to market, requires to be taken with care, as the fruit is not firm. There are but few of these Seedlings yet cultivated for market, as they are a recent production and seldom, if ever seen in market, as it is sold by Mr. Heath and others, and private families, at an extra price. Mr. McAvoy, Mr. Schneike, Mr. Ernest, Mr. Jackson, Mr. Pentland, and Mr. Kelby, and many other gardeners, have them for sale. The Prolific, the Superior, and Extra Red, were from seed I raised by impregnating Hovey's Seedling with the largest English hermaphrodite. McAvoy planted the seed, and gave some of the plants, by my direction, to my tenant, Mr. Schneike. The Prolific was among a great number of plants sent him by McAvoy, and was first known as Schneike's

Seedling. A premium was offered by our Horticultural Society for a Seedling Pistillate, superior to Hovey's Pistillate, or any other pistillate, of \$50, and after a full test, it was awarded to Mr. McAvoy.

N. LONGWORTH.

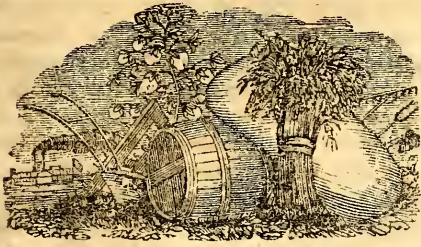
CINCINNATI, Ohio, 1857.

P. S.—I have seen berries of the [Longworth's] Prolific and Superior that measured six inches.

CULTIVATION OF THE PEACH TREE.—Professor Mapes of New Jersey, in treating of the cultivation of the peach tree, says that peach stones, in falling from the trees, always bury themselves alike, point downward, and this ought to be imitated. Broad end upwards, the frost open them and water enters. He describes a plan, the idea of which is to fit the bud in the process of building, by cutting away so much of the bark as will allow the insertion of the bud in place of the removed bark. The peach tree must be set one inch higher than in the nursery from which it is taken.—The new growth should be taken in, early in the next spring. The double lobe is a fruit bud, and the stock should never be shortened in next to it. If a peach be borne on the end of a long, struggling dependant branch, its death is not far distant. Peach trees eighteen years old may be rendered fruitful by proper treatment. The soil must be worked early, or there will be no crop. A very large hole ought to be made in planting.

STIRRING THE SOIL IN DRY WEATHER.—Never stir sandy soil in dry weather, except to kill weeds. When sandy soil is dry, stirring it increases its dryness. Clay soil should be stirred in dry weather, enough to keep it perfectly pulverized. The pulverized earth at the surface acts as a mulch to keep the moisture below. All soil which is now perfectly fine is made more dry by being moved. But clay soils, when rain comes, becomes encrusted. The crust should be frequently made fine by the rake or hoe.—*Ohio Farmer.*

PREPARATION OF SEED.—Some seeds are so slow of germination that weeds grow in advance of them, and thus render their cultivation the more difficult. Many of these, such as the carrot, parsnip, &c., may be buried in a bag in the soil a few days before use, and thus swell materially by the humidity and other necessary conditions found in the soil before final use.—This mode of treatment in many cases will do away with the necessity for steeping, and render early germination quite certain. Care should be taken not to have them buried long enough to cause material sprouting, as the new sprout might be broken off or injured during planting.



THE CAROLINA CULTIVATOR.

RALEIGH, MAY, 1857.

Cooke's New Map of North Carolina.

The agents for this beautiful map are now engaged in canvassing the State, and an opportunity will be offered to those who desire to have an accurate Map of their State, to procure one. The price of State Maps is usually ten dollars, but the Map of North Carolina has been put at the low price of eight dollars, that it may be in the reach of every person. There is but *one* price for the map. Those who are not in reach of an agent can send their names and residences to W. D. Cooke, Raleigh, who will have the map delivered. We copy the following notice of the Map from the Raleigh Register :

In a late issue we very briefly returned our thanks to Mr. Wm. D. Cooke, the compiler, for a copy of this important publication. We were compelled, however, to defer a descriptive notice of the work itself, until we should have leisure to do it justice.

An accurate and minute map of our State has long been needed, and the want was deeply felt. When Mr. C., several years ago, undertook the task of constructing one of the character demanded, he wisely determined to do his work slowly, and to resort to every possible source of information. In addition to various documents, maps, and surveys promptly furnished him from the government officers, State and Federal, he instituted an extensive correspondence, reaching to the remotest borders, and penetrating the darkest recesses of the State. The facts thus gathered, formed an immense incongruous mass, which it re-

quired much time and severe labor to explore, to separate and compare. The publication was subsequently delayed by repeated corrections of the proof-sheets, but is at last before the public in its completed state, and in a form which cannot fail to recommend it to the liberal patronage of our citizens.

The Map is constructed on a scale of eight miles to the inch, six feet by four. It is handsomely bordered, embellished with a daguerreotype view of the institution for the Deaf and Dumb and the Blind, of which Mr. Cooke is the Principal, and by sectional and comparative representations of several portions of the State. The body of the work embraces large portions of the adjoining States of Virginia, South Carolina, and Tennessee. It exhibits the political divisions, towns, rivers, mountains, sounds and shores, rail-roads, plank-roads, and canals, distinctly marked, plainly lettered, and beautifully colored and shaded. The lines of proposed improvements are also indicated, as far as the probability of construction would seem to warrant. The whole work is brought down to the most recent date, and with remarkable fidelity represents North Carolina as she really is.

We regard this Map as one of the most important contributions yet made to the wealth and prosperity of the State, and trust that the compiler will be amply rewarded for his labor and zeal so well laid out in constructing it.

It is but justice to add that the merit of the engraving of this Map is due to Messrs. J. H. Colton & Co., of New York, who have been long favorably known to the public as publishers and artists.

BONES AS A MANURE.—A late number of the Country Gentleman has an elaborate article by Levi Bartlett, of N. H., on bone manure. He concludes that there is no other manure whose effects are so lasting as an application of ground bones. Besides the increase of crops, he says it supplies phosphate, which the grasses generally lack, on old and long grazed fields in New England, and cause what is called "bone disease" in cattle. Mr. W. recommends that the bones be pounded, and thus broken to pieces, boiled or ground, and then spread evenly over the soil, and mixed with it. He has a field that was thus dressed years ago, and the effect is yet very perceptible on clover.

Miscellaneous.

Thick and Thin Sowing.

At the present moment the comparative merits of thick and thin sowing are actively discussed in England, not only at Farmer's clubs, but at every market table. Farmer Holdfast, whose white head and wrinkled brow, would lead us to suppose that he had farmed for at least half a century, gives as his conclusion, derived from all these years of experience, that he should rarely think of sowing less than three bushels; whilst Mr. Newlight, who is but a young agriculturist, states with equal confidence that the best crop he ever saw was from the sowing of three pecks.

Now, as there is in this a great deal of difference, one may at first be led to conclude that one or both of these gentlemen must be in error as to facts; but if we inquire a little farther into the matter, we shall find that while the larger quantity might not have been too much in past times, and may not even now where the condition of the past is maintained, the smaller seeding, on the other hand, is not too little where all the conditions of the soil have been improved.

Farmer Holdfast when he was young, and we all know with what tenacity the lessons of our youth are adhered to, was taught that the rougher you got in your wheat the better, and so the ground, with a single ploughing, was sown with the grain, and imperfect harrowing left some of the seed exposed, whilst much was covered up with huge clods. Here, then, on a cold, underdrained soil, a large portion perished from exposure; much of what was covered suffered from similar causes, and a large proportion of the plants which ultimately appeared would spring from such a depth that their tillering would have to commence at the third or fourth joint or node upwards, in which case new roots must be made at that node, and all below would die away; and thus much time and energy of growth is lost to the plant, which would therefore tiller but slightly, yielding even then but weak stalks and stunted ears.

But the process of tillering is interfered with in another way by too thick sowing, for if the seed should come up well, this, like thick plant-

ing of trees, causes the plants to grow up thin and emaciated; the central axis is elongated, in which case the lateral buds are not usually brought to perfection; or, if they do grow, they are thin and irregular, and without a disposition to rebranch, for it must be remembered that when lateral branches are strong, they, in turn, give off others. So in deep and thick sown wheat, each successful grain has to answer for at most but three or four ears, whilst one seed under the best tillage will make from 10 to 20 ears of corn, and well tillered corn has always the largest heads. Upon this subject the following experiment which we carried out last year may not be without interest, although even here we have no analogy to the rough work of Farmer Holdfast's youth, as our ground was so smooth that our seeds came up well, and did tolerably afterwards.

On February 2, 1854, we planted eight rows of wheat, with 24 grains in each row, at depths as follows:—

| | | | | |
|---|----------|---------|-------------------|----------------|
| | 1-2 inch | Came up | March 21—48 days, | |
| 1 | " | " | 20—47 " | } Starved. |
| 1 | 1-2 " | " | 22—49 " | |
| 2 | " | " | 23—50 " | } Good plant |
| 2 | 1-2 " | " | 24—51 " | |
| 3 | " | " | 25—52 " | } in Spring. |
| 3 | 1-2 " | " | 26—53 " | |
| 4 | " | " | 27—54 " | } Weekly plant |
| | | | | |

The produce of these bracketed groups may be stated in proportionals, as 2, 6, 4, so that from this experiment we were led to the following conclusions:

1. Shallow sowing perils on account of the winter exposure of the whole plant.

2. A range of depth from 1 1-2 to 2 1-2 inches is best.

3. Deep sowing is longer in producing the plant, and its plants are always weakly.

4. Irregular sowing at different depths within a wide range, requires far more seed for a good crop, than depositing the seed uniformly at a proper depth, or within a moderate range.

Again, in the comparatively rougher farming of the past, much grain was choked with weeds; and thus it appears that thick sowing was an absolute necessity in the earlier days of farming, in order to guard against the contingencies arising,

1st. From the colder climate, attributable to a general want of draining.

2d. From the consequent bad tilth of land, thereby resulting in rough clods, amongst

which seed would be scattered at irregular intervals.

3d. From the very irregular depths at which it must consequently be sown.—*London Gardener's Chronicle.*

The Common Caper.

The common caper (*Capparis spinosa*) is a deciduous-leaved shrub indigenous to Southern and Eastern Europe, usually found amongst rubbish and upon old walls. In the Grecian islands, it occurs by the sea-side on rocks.

This plant is cultivated on a large scale between Marseilles and Toulon, in many parts of Italy, as well as on Malta, Sicily, and the islands of the Levant. It is propagated from cuttings, or suckers, which are planted about 10 feet apart, in a lean soil, without manure. It may also be raised, by sowing the seeds upon old walls, where they will take root between the bricks, and endure for many years. The plants require to be sheltered from severe winds, and to be favorably exposed to the sun, and scarcely ever suffer from drought or heat. In spring, they need only one dressing; in autumn, they are cut down to within 6 inches of the ground, and covered with the surrounding earth, which is raised about them on all sides. The succeeding spring, they are laid bare to the crown of the stump, soon after which they throw out fresh shoots. In the early part of the summer, they begin to flower, and thus continue in succession, until they are destroyed by frost or cold. In the vicinity of Toulon this plant is cultivated in orchards, in the intervals, between the fig and olive trees; and in the neighborhood of Paris, it is trained on low walls, and the shoots during the winter are laid down and covered with earth, to protect them from the frost.

In the islands of the Mediterranean, and near Toulon, the flower buds of the caper are gathered while very young; for, as they enlarge, they decrease in value; the collecting of these buds forms a daily occupation for six months in the year, while the plants are in a flowering state. As the buds are gathered, they are thrown into a cask among as much salt and vinegar as is sufficient to cover them, and as the quantity of capers is increased, more vinegar is added. When the caper season closes, the buds are then sorted according

to their color and size. The smallest and greenest being best, they are separated from the larger ones, and put into small casks of fresh vinegar, when they are ready for shipment or use. In this state, they will keep well for many years. In Italy, the fruit is prepared in the same way as the flower buds; both are bitterish, acrid, and aromatic. It is said to be a common, though pernicious practice, to put filings of copper in the first pickle, to give the buds a green color.

The chief supply of the capers used in this country as an ingredient in sauce to be eaten with boiled fish and meats, especially mutton, are from Sicily and the south of France.—*Patent Office Report.*

D. J. B.

From the Ohio Cultivator.

Raising Irish Potatoes.

CAP TAL ADVICE FROM A PREMIUM POTATO RAISER.

Selecting and Preparing Ground.—Select a piece of good rich land, and plow it thoroughly and deep, and then make it fine by harrowing and rolling, if necessary, but be sure you have it mellow. I would not furnish the seed for the chance of a crop of Irish potatoes planted among clods. I am aware that in a rainy season the land will be easily mellowed, but in a dry one it will produce nothing but small potatoes, and few in a hill.

Drains and Water Courses.—Now look over your potato patch, (unless it be underlaid with gravel, and leaches water down readily,) and observe all low places where water will settle, if only for a short time, and make a good drain that will let it off readily; as water standing on potatoes but for a short time, will spoil the crop. This cannot be too well done; and be sure you keep your drains open, as they will do no harm in very dry seasons.

Laying out and Planting.—We plant in rows both ways, for convenience in tending, as it requires much less hand work when they can be worked both ways with cultivator and plow. We cut our potatoes for planting quite small, and then put two or three pieces in each hill, or enough to make three or four stalks. It is a great error to put in so much seed that you will have 8 or 10 stalks to the hill. If I was requested to give directions for raising small potatoes, that would be the first rule I

would lay down. It would be just as reasonable to expect large ears of corn from a hill with 8 or 10 stalks in it, as to expect large potatoes from hills that have too many stalks in them. We furrow our land about 3 or four inches deep, and as close as we think we can get through conveniently with cultivator and plow and cover the seed with mellow soil, and with hand hoes, about three inches deep. We have tried several other ways of covering, but always to our cost; as indeed we have never made any profit by doing things the lazy way, if thereby it was done any the worse; for if good farming won't pay, you will starve on poor farming.

In tending the crop, we are careful to keep the land well stirred, especially in dry weather; by so doing the mellow soil on top acts as a mulch, thus preventing the lower parts from drying out, while it attracts what moisture there is in the atmosphere. Just before finishing, or laying them by to grow, we go through them both ways with the cultivator, running the teeth deep and close to the hills on every side, thus mellowing up the soil afresh for the tubers to grow in. This also cannot be too well done. Where labor is cheap, and potatoes dear, it would pay well to remove all the soil from the growing plants, and replace it immediately after being well pulverized. We then plow them snugly with the shovel plow, and all that is necessary afterwards is to keep them clear of weeds.

Good Advice—Plant early and well, and then tend well, and you will seldom or never fail having a tolerable crop, even in the dryest seasons. I am very well aware that it takes some courage in very dry seasons, especially just after a wet one, when crops come up puny and look sickly, to keep in good heart, and not conclude that your crop will not pay for tending any how you can manage it, and therefore you will give it up. My advice is, keep doing your best; keep your soil mellow, and your crop clean, for I have never yet seen a season that there has not been slight rains, at least; and a very slight rain will make good potatoes, if they are well tended. We always make the most money out of our potato crop in hard seasons, when poor cultivators have none.

G. S. INNIS.

Columbus, April, 1857.

The Oregon Pea.

Statement of H. M. BRY, of Monroe, Ouachita Parish, Louisiana..

The celebrated "Oregon pea," said to have been discovered in Oregon or the Rocky Mountains, a few years since, has been cultivated by me upwards of twenty-five years, and by my father about fifty years. He obtained the seed from the captain of a slaver, from the coast of Angola, a year or two after the cession of Louisiana; and it has been known and cultivated here ever since that period as the "Angola pea."

As I had seen miraculous statements concerning the Oregon pea, for a year or two past, and as I had a great fondness for agricultural experiments, I of course, was among the first to obtain a few of the seeds. As soon as I saw them, I was satisfied of their identity with the Angola pea, but as I thought that I might possibly be mistaken, I cultivated them, and the result confirmed my previous opinion. As I have raised this pea for years, I can speak of its qualities. It is well adapted for the table, for hay and a fertilizer. It is undoubtedly a tropical plant, and, for aught I know, it would continue to bear for years from the same stalk. I frequently cut it for hay, when it began to form its seeds, before the coming of frost, when it is as full of branches and leaves as at first.

Statement of GEORGE LUTHER, of Longstreet, Moore County, N. C.,

I planted the Oregon peas, I received from the Patent Office, on the 23rd of April. They came up and grew well for some time; but, on the 4th of August, when they were from 2 1-2 to five feet high, we had a heavy squall, which blew them all down, and broke about half of them off at the ground. I thought for some time the roots would send up sprouts, but they did not. I offered some of those that were broken off to my cattle and horses, but none would eat them. I observed closely, to see if the branches come out at every joint, but in this I was disappointed, and they did not begin to bear until late in the fall, and then only bore pods on the extreme ends of the limbs, and these so late that a third part were destroyed by the frost, though the fall was mild.

The "Chinese" pea, from its size and color, could not be distinguished from the Oregon pea. I obtained a few plants from these, which were perfectly similar to the Oregon pea, until the stalk was about a foot high. Then they began to blossom, and bore pods which resembled those of the Oregon pea. They then sent out a number of vines, each of which bore at every joint. It was late in May when I received them. I planted some of the first that ripened, and they matured from frost. I think three, if not four crops of them, may be made here in one season.

Statement of Wm. H. GORDY, of Butteville, Marion Co., Oregon Territory.

There is no such product here as the "Oregon pea," described by a writer in the report of 1853. There is an excellent field pea, which was introduced by the Hudson Bay Company. It is a yellowish white, and nearly the size of what is known as the "May" pea in the Western States. The stalks, when planted in good rich land, grow 4 feet high, sending out several lateral shoots, with short joints, which have from 2 to 4 pods at a joint, that seldom contain more than six peas.

What is known here as the "Field" pea will yield on good land 30 bushels to the acre. The peas are fed to hogs, and the vines make good hay.

Peas are considered superior to wheat to fatten hogs. The cost of raising is about the same as that of grain.

Statement of VICTOR SCRIBA, of Pittsburg, Alleghany Co., Penn.

The "Oregon" pea was cultivated here both in 1854 and '55. In the former, on account of the great drought, it entirely failed. Last Spring, I sowed mine about the middle of April but a late frost killed nearly half the plants I had. The other half lingered for several months, seemingly not to grow at all, until the last of August, or early in September, when they grew more vigorously and commenced to blossom. The early frosts, however, about the middle of October, killed the unripe pods stalks, and leaves in a single night. The stalk attained a height of only 2-2 or 3 feet.

All the other Oregon Peas cultivated in this vicinity, as far as I could learn, shared the same fate.—*Patent Office Reports.*

Summer Management of Sheep.

In the Spring do not turn your sheep into the pasture until it is well up, or until it is ankle high, so as to have something to shade the ground; keep your sheep close, and feed them on hay and grain of some kind—they will eat it well if kept from grass. When put upon pasture, have three or more fields, and change them often, so that their pasture may be sweet. I have known a neighbor lose three hundred sheep out of six hundred in one summer.—He divided them into three parts, and put them into three large fields, with no shade except what the fence on the south side of each field made. The sheep lay along the fence, and when the nose fly came, the sheep were to be seen running with their noses to the ground fighting the fly, and eating only just enough to keep life in them. The sheep did not go more than eight or ten rods from the fence, and this was eaten close to the ground when there was plenty of pasture on the north side of the field; as a consequence the sheep poisoned themselves in their own filth. The fly laid its eggs in the nostrils of the sheep, and they soon died in great numbers of "worm in the head."

Now, you would ask, how should he save his sheep? He should have put them all in one field, and forced them to go farther from the fence; and about two or three days after the first shower, he should have changed them to another field. Whenever you see your sheep run with their noses down to the ground, drive them to your farthest pasture; the fly will stay about where the sheep have lain. Keep changing them from field to field, and you will not be troubled with "worm in the head."—*J. D. CHAMBERLAIN, in Genessee Farmer.*

AN ITEM FOR TROUT FANCIERS.—We find the following in the Hartford Times, relative to the cellar process of trout breeding:

During the past winter, Dr. E. C. Kellogg has succeeded, without much trouble, in breeding trout in his cellar. He placed a box, with proper partitions, in his cellar, and put some sand, gravel and stones in the bottom. He then procured two trout, a male and female and went through the process which has proved successful in France, of pressing the spawn from the female, and placing it in his box. He then filled the box with Connecticut river

water, and kept a small stream constantly running through it. This was about seven weeks ago. He has now seventeen fine, lively young trout, from half an inch to an inch in length, and more in the process of hatching. By holding the eggs to the light, little fish can be seen in them distinctly. The old ones are kept in a tub, and are not allowed to range among the small fry. The little ones of a week old have all the characteristics of the old fish, and they will dart under a stone with great rapidity, when the water is stirred up a little. Our popular water works are constantly developing new sources of comfort, not the least of which is that which furnishes a good supply of trout, fresh for the table, in the cellars of our citizens, at all seasons of the year.

—♦♦♦—
EARLY CROPS OF CUCUMBERS, MELONS, &c.—
 The real difference between the *live* gardener and his opposite, is striking in every part of his vocation or calling. His inclination to be first in cleanliness, quantity and season, of all his produce so far as the means at his disposal will allow him. If neither green houses nor hot beds, are among his means of accelerating or preserving vegetation, nothing daunted, he sets about devising the best to supply their place. Supposing the regular handlights are also wanting among his fixings, he sets about providing a substitute that will do next best. As these are within the reach of all, none but the negligent are without them. Common sense, a few feet of boards, some panes of glass, saw, hammer, and nails, being the stock in trade required.

Common sense, will very soon, out of these materials construct some rough boxes without top or bottom, the size of the panes of glass, and thus be in possession of miniature frames, or green houses if you wish, for it is not long under one of these contrivances before seeds soon exhibit the effects of their use. Of course all those who can, will have the boxes made and painted, and a groove cut on the inside to receive the glass, and it will be better yet if the box is formed spanroof fashion, or highest in the centre, two pieces of glass being used, one on each side. Boxes made to fit panes of glass one foot square will be a very useful size, or they may be larger.

With these our model gardener goes to work, say about the first or second week in

April, in this latitude, earlier or later, as the seasons come along in other parts, and digs a hole in a thorough warm border, sufficiently large to take a wheelbarrow load of good warm manure. This is trodden down firmly and some six inches of good soil placed over it. It is left a day or two, and then half a dozen or so of seeds, such as cucumbers, melon and squash are sown in the ordinary way; the frame is placed on, and no further care is needed except giving a little air in very hot sunny days.

Those who have not tried the above, can hardly realize how much the crop is accelerated by it in fact, the seed may be safely committed to the earth nearly three weeks earlier than without, with good prospect of success.

Of course egg-plant, tomato, pepper, and all other seeds, may be sown and hastened by the same process, and besit for planting out by the time the ordinary soil gets sufficiently warm to receive them.—*Country Gentleman.*

—♦♦♦— Points in a Good Horse.

In purchasing a good horse, sight, wind, feet and limbs must be the uppermost objects of inquiry; for nine horses out of ten are defective in one of these particulars. First, then examine his eyes, and do this before he comes out of the stable; see that they are perfectly clear and transparent, and that the pupils or apples of the eye are exactly alike in size and color. Next examine his pipes; if good and sound on being nipped in the gullet, he will utter a sound like that from a bellows; but if his lungs are touched, and he is broken-winded, he will give vent to a dry, husky short cough; look to his limbs also, and in passing your hand down his legs, if you find any unnatural protuberance, or puffiness, or if feeling first one leg, then the other, you discover any difference between them, disease, more or less, is present; he may not be lame, but he is not clean upon his legs. If he is broad and full between the eyes, he may, be depended on as a horse of good sense, and capable of being trained to almost anything. If you want a gentle horse, get one with more or less white upon him; many suppose that the parti-colored horses belonging to circusses, shows, &c. are selected for their oddity; but it is on account of their gentleness and docility; in fact the more kindly you treat horses, the better you will be treated by them in return.—*Spirit of the Times.*

Green Corn for Fodder.

BY T. C. PETERS, OF DARIEN, N. Y.

In many regions of the United States, the high price of land makes it difficult for those who cultivate small farms, to realize profits proportionate to the capital invested. To such persons, in particular, it becomes a desirable object to be able to keep cows in order to enrich their land cheaply, and to derive revenue from the products of the dairy. What is termed "soiling" is, in these cases, of the highest importance.

There is no doubt that at least three animals can be kept in good condition upon the green food cut and fed to them daily from a piece of land that would barely support one, if left to feed thereon, while the manure thus saved, if properly applied, would be more than equal to the cost of the labor involved, without taking into the account the gain in land.

It has been found difficult during hot and dry summers to have a ready and sure supply of green food. Realising this difficulty in feeding teams, two years ago, I made an attempt to supply the defect by sowing Indian corn broadcast; and though the season was unusually hot and dry, the experiment proved successful.—Last spring, I accordingly proceeded to the cultivation of corn for that purpose, in a systematic manner.

The ground selected was near my barn, and in good condition, as to heart; and all the preparation I made was to plow it once and then drag it down smooth. As the corn grown in this region is the common "Yellow," I sent to Ohio, and obtained my seed from the large Southern varieties.

On the 2d of June, I set one of Batchelder's corn planters to drop the hills a foot apart, and then run it backward and forward as near the rows already planted as possible, without actually interfering with them. After planting it in this manner, I gave it a good rolling. It came up finely; I then found that the planter was a decided improvement upon the former modes of sowing corn.

On the 6th of August, I cut an average stalk from one of the hills, when the tassell was just in sight, and found it to weigh 3 1-2 pounds.—When subsequently cured, it weighed a pound. The amount of green food which may thus

be grown, under favorable circumstances, seem almost incredible. An acre contains 43,560 square feet. If, therefore, but one such stalk were to grow upon each foot, there would be over 76 tons produced to the acre.

The supply of food thus furnished was beyond all my expectations, and satisfied me that hereafter, I could in no other manner do so well as to prepare a small lot for planting or sowing corn to feed my teams. I think that any land that will produce tons of hay, will will yield 10 tons of corn fodder. I think also that, at the North, the Southern corn will do best for sowing, while, at the South, some of the Northern varieties will grow full as rank and strong as can be desired.

Garden Seed.

There is a matter to which I wish to call the attention of the public, and especially that portion of it who deal in garden seeds; and that is, the bad quality of many of the kinds that they send round among us. At five cents a paper, which, on an average contains not more than a table spoonful, they can well afford to furnish us with the very best of new seeds, induced with full and active vitality. But I am sure some do not, and I hazard the remark that none take the pains they ought to take. The loss of 5, 10 or 15 cents is not too much; but that is by no means the whole loss. There is the loss of the labor of preparing the ground, of sowing the seed, of much of the manure used, and of the expected crop. And there is the vexation, which, in this world, which is so full of vexations, ought not to be inflicted upon us, if seed-sellers can well help it. The complaint does not proceed from one only, but from many.

There is hardly any seed which does not lose a portion of its vitality; some lose all if kept over more than one winter. It is pretty well known that seed-sellers take back in the fall the seed unsold in the preceding spring, and the suspicion is rife among us that the seed taken back is offered again, and perhaps a third or fourth time. The papers bear no date of the year when the seed was raised; and why do they not?

I fear the seed-sellers do not take sufficient care to put up only the best seed. In all cases, where the plant is biennial, they should use

none but large healthy roots ; and when it is umbeliferous, like the parsnip, or branching, like the beet, they should put up none but such as is borne on the central umbels and the principal branches. If they were to remove the inferior umbels, (the umbels only,) and the tops of the inferior branches, at the time of blossoming, or before, the umbels and branches left would bear better seed ; and those removed, would probably, if left, have borne only abortive seeds.

It has been said that cabbage seed, raised from cabbage stalks, the head being removed, seldom produce plants that head well. So reason teaches.

And it has been said also that squash and pumpkin seeds, taken from the stem end, are more apt to produce fruit similar to the parent than those taken from the blossom end. It is well worth while to ascertain if this saving is correct. Reflection would probably suggest a reason why it is so.

This spring, more complaint has been made of the bad quality of parsnip and onion seeds than of any other ; but the beet beds show many vacancies.

Doubtless the failure of many seeds is due to the ignorance or carelessness of the sower. It will take but a few lines to remark that, in a dry season, covering the seed soon, for three or four days, with a board or a piece of old carpet, will sometimes cause it to vegetate, when otherwise it might not.

Can you, Mr. Editor, give a list of the seeds which lose their vitality soonest, and of other seeds which retain their vitality longest?—Honest seed-raisers, and all are honest, for aught I know, would be glad to learn. Yours, &c.,

S. HALE.

Keene, N. H.

We fully agree with our correspondent, that there is great need of improvement in the quality of garden seeds. We have long been aware that if there is anything in which the public are humbugged, it is in garden seeds. But the cause must not be laid to the established seed dealers ; it belongs wholly and exclusively to the purchasers. They require cheap seeds, and always buy of those who sell the lowest, and of course, they get them ; for no honest, upright seedsman could supply pure fresh

seeds at the unusually low prices at which they are now sold.

The truth is, the mass of the people buy garden seeds as they would a pound of sugar or a bushel of corn ; the cheapest always finding the most customers. The standing of the seedsman is no consideration, and the seeds of an unknown dealer are just as readily taken as those from the merchant who is well known, and has a reputation to lose. The competition among dealers, and the eagerness to secure customers, has lowered prices, and as they are below what fresh seeds can be raised for, they must of course be adulterated to afford a living. The dishonest seedsman, if there are any such, must pursue this course or purchase hazardous, any seed offered for sale, of which there is always an abundance, without knowing anything about them. Probably not one in ten of those who buy seeds are aware that the best seedsman, who can be relied upon, have their seeds raised expressly for them, and often furnish the stock, or know that it is pure ; it is the only way they can be certain of their genuineness. The only remedy is, therefore, to deal with first rate houses, with men who are known, and to be willing to pay a fair price for a pure article. If, however, they must be had at a low price, purchasers must expect to have them mixed with old seeds ; for it is the only way in which the dealer can compete with the cheap seedsman. Our advice is, to buy nothing in the way of seeds, plants or trees, because they are cheap.—*Hovey's Magazine.*

♦♦♦♦♦
 "A subscriber" (whom we suspect to be some narrow minded Leech) asks us why we advertise Dr. Ayer's Pill ; and we will give him our seven reasons for so doing. The first, second and third is, he pays us. The fourth is we know them by experience to be good. The fifth is that Dr. Ayer's preparations being recommended by better men than we—by physicians of the highest talent and the deepest learning in the land, we are well sustained in our own convictions of their value. The sixth is that they are cheap as well as useful. The last but not least is, that they have done and are doing an amount of good in this community which our old foggy friend if he could repeat himself ten thousand times might never hope to equal, and we trust by making them known to render some service to our readers as well as ourselves.—*Christian Advocate.*

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Ap., 1857—8w

PREMIUM THRESHING MACHINES.

The North Carolina State Fair, held at Raleigh, awarded the First Premium for our celebrated Threshing Machine.

THIS Machine has been fully tested in this State and Virginia, and approved by all who have used it on account of its simplicity of construction, its light, and durability. We have no hesitation in saying they are the best *Threshers* now in use. They are economical in cost, simple in construction, and less liable to get out of working order. We also make a *Hub Horse Power*, which is adapted to either four or six horses. This Power is all that a planter can desire to do the power-work on a plantation: it is very simple in its construction, celebrated for its strength, and not easily got out of repair; and, from the same quantity of power, can do more work than any other now in use.

It is unnecessary for us to particularize further as to the advantages of our Thresher and Power, but respectfully solicit the attention of all, to call and examine for themselves at our manufactory, where they can be seen in full operation; and any recommendation that may be wanted will be given, from planters, and others of this city, who have used them for the last four years.

All orders promptly attended to.

Repairing done at short notice, on application, at our manufactory, on Washington St., opposite Jarratt's Hotel, Petersburg, Va.

J. W. DAVIDSON & BRO.

Ap., 1857—8m

FRUIT AND ORNAMENTAL TREES AND PLANTS.

1700 LBS CHINESE Sugar Cane, in quantity and also parcels of 8000 seeds for \$1 25 post-paid.

Chinese Imperial White Potato, the most valuable, and hardy of all esculents, \$5 per 20, \$20 per 100.

Osier Willows, \$2 to \$5 per 1000.

Lanton Blueberry, \$18 per 100 \$3 per doz.

Yellow and Honey Locust Seeds, and all other kinds of seeds.

min 1t

WM. K. PRINCE & CO.,
Flushing, N. Y.

NORTH CAROLINA

MUTUAL INSURANCE COMPANY

AT THE ANNUAL MEETING OF THE North Carolina Mutual Insurance Company, held on the 9th inst. the following persons were elected Directors and Officers for the ensuing year:

OFFICERS OF THE COMPANY.

T. H. Selby, *President*.

H. D. Turner, *Vice President*.

H. S. Smith, *Sec'y and Treas.*

John H. Bryan, *Attorney*.

T. H. Selby, *ex officio*.

John R. Williams, } *Executive Committee.*

C. W. D. Hutchins, }

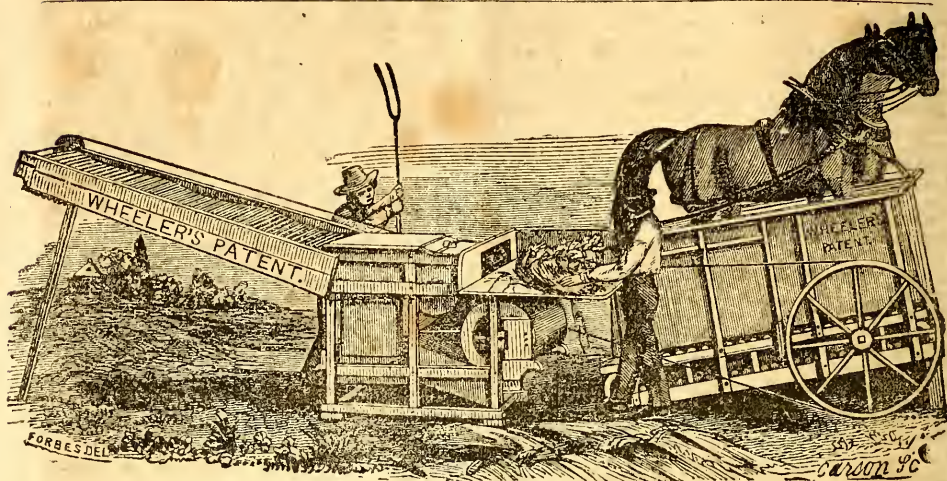
This Company has been in successful operation for more than 7 years, and continues to take risks upon all classes of property in the State, (except Steam Mills and Turpentine Distilleries,) upon favorable terms. Its Policies now cover property amounting to \$4,500,000, a large portion of which is in Country risks; and its present capital is nearly Seven Hundred Thousand Dollars, in bonds properly secured.

The average cost of Insurance upon the plan of this Company has been less than one third of one per cent. per annum, on all grades of property embraced in its operations.

All communications in reference to insurance should be addressed to the Secretary, post paid.

H. S. SMITH, *Sec'y*.

NEW YORK STATE
AGRICULTURAL WORKS,
 BY
WHEELER, MELICK & CO.



Double Power, and Combined Thresher and Winnow, in operation.

We are Manufacturers of Endless Chain Railway Horse Powers, and Farmers and Planters' Machinery for Horse Power use, and are owners of the Patents on, and principal makers of the following valuable Machines:

WHEELER'S PATENT SINGLE HORSE POWER,

AND

OVERSHOT THRESHER WITH VIBRATING SEPARATOR.

This is a One Horse Machine, adapted to the wants of medium and small grain growers. It separates grain and chaff from the straw, and threshes about 100 bushels of wheat or twice as many oats per day, without changing horses—by a change nearly double the quantity may be threshed.—Price \$160.

WHEELER'S PATENT DOUBLE HORSE POWER,

AND

OVERSHOT THRESHER WITH VIBRATING SEPARATOR.

This machine is like the preceding, but larger, and for two horses. It does double the work of the Single Machines, and is adapted to the wants of large and medium grain growers, and persons who make a business of threshing.—\$160.

WHEELER'S PATENT DOUBLE HORSE POWER,

AND

COMBINED THRESHER AND WINNOWER.

(SHOWN IN CUT.)

This is also a Two Horse Machine: it separates the grain from the straw, and winnows it at one operation, at the average rate of 150 bushels of wheat and 300 bushels of oats per day. In out door work, and for persons who make a business of threshing, it is an unequalled Machine.—Price \$245.

ALSO CLOVER HULLERS, FEED CUTTERS AND SAWING MACHINES.

Our Horse Powers are adapted in all respects to driving every kind of Agricultural and other Machines, that admit of being driven by Horse Power, and our Threshers may be driven by any of the ordinary kinds of Horse Powers in use—either are sold separately.

To persons wishing more information and applying by mail, we will forward a circular containing such details as purchasers mostly want—and can refer to gentlemen having our machines, in every State and Territory.

Our firm has been engaged in manufacturing this class of Agricultural Machinery, 22 years, and have had longer, larger, and more extended and successful experience than any other House.

All our Machines are warranted to give entire satisfaction or may be returned at the expiration of a reasonable time for trial.

Orders from any part of the United States and Territories, or Canada, accompanied with satisfactory references, will be filled with promptness and fidelity. And machines securely packed, will be forwarded according to instructions, or by cheapest and best routes

WHEELER, MELICK & CO.,
 ALBANY, N. J.

H. D. TURNER, GENERAL BOOK AGENT.

No. 1 Fayetteville Street, Raleigh, N. C.,

PUBLISHER OF THE

SUPREME COURT REPORTS OF NO. CA.

Has for sale, in quantities or by retail, an extensive assortment of Books and Stationary, Comprising Greek, Latin, French, Spanish and English Books; School Books; Blank Books; Juvenile and Toy Books; Miscellaneous Works; with all the New Publications as they issue from the Press; also a large assortment of Stationary and Fancy Articles.

SCHOOL BOOKS.—All the different kinds of Primers, Spelling Books, Reading Books, Grammars, Arithmetics, Geographies, Atlases, Histories, Dictionaries, &c.; also Works on Astronomy, Algebra, Chemistry, Philosophy, Mathematics, Surveying, Geometry, Botany, Book-keeping, Rhetoric, Mensuration, Trigonometry, Geology, Mineralogy, Cookery, Farming, Gardening, Medicine, Theology, Penmanship, Architecture, &c., &c. He has always on hand the Standard English Law Reporter and Digests, and every Treatise on Particular subjects; together with the various State Reports and Digests, and a general assortment of Law Books of every description.

BLANK BOOKS.—Ledgers, Journals, Day Books, Invoice, Cash, and Letter Books, Receipt and Bill Books, Memorandum, Bank and Pass Books, Ciphering and Writing Books.

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SACRED MUSIC BOOKS.—Piano Music, Music Paper, and Musical Instruments.

STATIONERY AND FANCY ARTICLES.—Consisting of Foolscap and Letter Paper, Note, Folio Post and Drawing Paper, Morocco, Tissue, Pith, Tracing and Marble Paper; Knives, Steel Pens, Quills, Wafers, Sealingwax, Pocket Books, Albums; Ink Powder, India, Indelible, Japan, Black, Blue, and Red Inks; Prints, Gold and Silver ever-pointed Pencils, Seals, Wafer Stamps, Sand and Sand Boxes; Scrap-Books, Visiting Cards, Card Cases, Gold and Silver Paper, Inkstands, Slate and Slate Pencils, Lead Pencils, Bristol and Ivory Boards, Chess Men, Maps, Battledores, Rules, India Rubber, Carmine Saucers, Newman's, Reeves's, and American Water Colors, &c.

N. B.—BOOKBINDING done, in all its various forms, with neatness and dispatch.

GARDEN-SEEDS.—To be had at the North Carolina Bookstore. Garden-Seed, warranted fresh and good, crop of 1855, selected from the most approved Seedsmen and Gardeners in the Northern Country.

February, 1857.

TWENTY-FIVE WITNESSES; OR, THE Forger Convicted.

JOHN S. DYE IS THE AUTHOR,

Who has had 10 years experience as a Banker and Publisher, and Author of *A series of Lectures at the Broadway Tabernacle* when, for 13 successive nights, over

50,000 PEOPLE

greeted him with Rounds of Applause while he exhibited the manner in which Counterfeiters execute their Frauds, and the Surest and Shortest Means of Detecting them! *The Bank Note Engravers all say that he is the greatest Judge of Paper Money living*

GREATEST DISCOVERY of The Present Century for

Detecting Counterfeit Bank Notes.

Describing every Genuine Bill in existence, and exhibiting at a large glance every Counterfeit in Circulation. Arranged so admirably, that Reference is easy and Detection instantaneous.

No index to examine! No pages to hunt up! But so simplified and arranged, that the Merchant, Baker and Business Man can see all at a Glance.

ENGLISH, FRENCH AND GERMAN.

Thus each may read the same in his own Native Tongue.

MOST PERFECT BANK NOTE LIST PUBLISHED, also a List of *All the Private Bankers in America*. A complete summary of the Finance of Europe and America will be published in each edition, together with all the important News of THE DAY. Also

A SERIES OF TALES

from an old Manuscript found in the East. It furnishes the most complete History of

ORIENTAL LIFE

describing the most perplexing positions in which the Ladies and Gentlemen of that Country have been so often found. These Stories will continue throughout the whole year, and will prove the most entertaining ever offered to the Public.

Furnished weekly to Subscribers only, at \$1 a year. All letters must be addressed to

JOHN S. DYE, BROKER,

Publisher and Proprietor,
70 Wall Street, New York.

FARMER'S HALL

RALEIGH, N. C.

The subscriber is general agent for the sale of Agricultural Implements and Farming utensils, Field seeds, Fertilizers, &c. &c. Almost all the articles brought to the late Fair are kept on sale and are offered at manufacturers prices with no cost of transportation, as they were brought free by the Railroad.

There is also a new fire proof Ware House on the lot, in which all articles on consignment are stored. The following are some of the articles brought to the late Fair: Horse Powers, Wheat Fans, Corn Drills, Field Rollers, Corn and Cob Crushers, Harrows, Cultivators, and Plows of every size and description.

JAMES M. TOWLES.

Book Binding

JOHN H. DECARTERET & SON.

RALEIGH, N. C.

ARE still carrying on the BOOK BINDING business in all its branches at the old stand over "Turner's N. C. Bookstore."

One Dollar a Year. Circulation, over 100,000 Copies Weekly.

Wyche's Cultivating Plow.

PATENTED 26TH FEBRUARY, 1856. (THE Bladed Plow,) awarded \$20 premium at the last N. C. State Fair; with cutting blades in the place of a moldboard; cuts, divides and turns over the soil; depositing the finer parts in the furrow, and turning over the turf, clods, &c., on the surface. Is cheap, light, and lasting, and easy to both driver and team. Admirably adapted to almost any purpose for which the plow is used.

For license to sell, with further information, address

W. E. WYCHE.

Brookville, Granville Co. N. C.

June 16, 1856.

J. H. Gooch, Oxford, N. C., solicits orders for the above plows.

DOCTOR HOOFLAND'S

CELEBRATED

GERMAN BITTERS.

PREPARED BY

DR. C. M. JACKSON, PHILAD'A. PA.

WILL EFFECTUALLY CURE

LIVER COMPLAINT, DYSPEPSIA, JAUNDICE,

Chronic or Nervous Debility, Disease of the Kidneys, and all diseases arising from a Disordered Liver or Stomach.

Such

as Constipation, Inward Piles,

Fulness or Blood to the

Head, Acidity of the stomach,

Nausea, Heartburn, Disgust for food,

Fulness or Weight in the Stomach, Sour Eructations, Sinking or Fluttering at the pit of the stomach,

Swimming of the Head, Hurred and difficult Breathing, Fluttering at the Heart, Choking

or suffocating sensations when in a lying posture.

Dimness of vision, Dots or webs before

the sight, Fever and Dull Pain in the

Head, Deficiency of Perspiration,

Yellowness of the skin and eyes,

Pain in the Side, Back, Chest,

Limbs, &c., Sudden flushes

of Heat, Burning in

the Flesh, Constant

imaginings of evil,

and great depression of

Spirits.

The proprietor in calling the attention of the public to this preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the diseases for which it is recommended.

It is no new untried article but one that has stood the test of a ten years' trial before the American people, and its reputation and sale is unrivaled by any similar preparations extant. The testimony in its favor given by the most prominent and well known Physicians and individuals in all parts of the country is immense, and a careful perusal of the Almanac published annually by the proprietor, and to be had gratis of any of his agents, cannot but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained.

Principal Office and Manufactory No. 96 Arch St. Philadelphia, Pa.

TESTIMONY FROM N. CAROLINA.

ASTONISHING EFFECTS FROM THE GERMAN BITTERS.

Certificate of Dr. W. SMITH, of Pine Hill, Richmond Co., N. C., March 4, 1854.

Dr. C. M. Jackson, Philadelphia.—Dear Sir,—I have been a subject of Dyspepsia in its worst form,

for the last five years. Such was my condition for 12 months that the physicians and all who saw me said I must die. While in this condition, I was carried to the watering places in Virginia, Tennessee and North Carolina, but was not benefited by any water to which I was taken. While on my way home, I stopped a week at Rutherfordton, a small village in N. Carolina to try the effect of some Chalybeate water in that place. About the last of the week, I went into a drug store to get some medicine for my child and myself. There were several of the village physicians in the store, and one of them seemed to take some interest in my case, and after asking me some questions, said he had been a dyspeptic, and had been greatly benefited by the use of "Dr. Hoofland's German Bitters," prepared by you, and he insisted that I should try the Bitters. He also called the next day at my room, and insisted so much that I would try them, that I asked him to get me one bottle. He did it, and I commenced taking it as directed, and I do say I was more benefited by it than all the water and medicine I had ever taken.

After reaching home, one of my neighbors came to me for a prescription and medicine, (he a dyspeptic,) and I gave him nearly all the Bitters I had left; which effected much good in his case. He has often called on me for more of the same kind of medicine, saying he was more benefited by it than any other he had taken, but I have not been able to get any more for him or myself since; will you, therefore, please ship me a dozen or more as soon as possible.

Respectfully yours,

W. SMITH, M. D.

GREAT CURE OF PILES.

Certificate of W. J. ATWOOD, Huntsville, Yadkin Co., N. C., Nov. 1, 1853.

Dr. C. M. Jackson.—Dear Sir,—Allow me to express to you my sincere thanks for your discovery of a medicine, which, to say the least of it, has effected a cure that all other medicines that I have taken have entirely failed to do. "Hoofland's German Bitters," have cured me of the most stubborn and aggravated case of the PILES that, perhaps, ever fell to the lot of man. My case is not a stranger to this community, as I am well known in this and the surrounding countries, and can truly say that my recovery has astonished all my friends and relations, as I had tried everything recommended, and nothing did me any good until I was prevailed upon to try the bitters. You are at liberty to make any use of this communication, for the benefit of the afflicted, as you may think proper.

Truly yours,

W. M. T. ATWOOD.

These Bitters are entirely vegetable, possessing great advantage over every mineral preparation, as they never prostrate, but always strengthen the system.

Price 75c. per bottle. Sold by Druggists and Storekeepers in every town and village in the United States and Canada, and by

WILLIAMS & HAYWOOD,

November 1856.

Raleigh.

WARRENTON FEMALE COLLEGIATE INSTITUTE
WARRENTON, N. C.

THE 30th session of this school will commence on the 3d of January next, prepared to give thorough instruction in all the branches of female education. Pupils received at any time. All charges from time of entrance.

Terms per Session :

Board, washing, lights and fuel in rooms, \$60 00
English tuition, 12 50

Music on Piano, Guitar, Melodeon, with use

of instrument, each 23 00

Oil Painting, 15 00

Persons wishing further information, will please apply to

GRAVES, WILCOX & CO.

December, 1855.

GRENOBLE HOSE.

THIS superior hose, manufactured from the finest of HEMP, is adapted and especially recommended for the use of Fire Engines, Mills, Manufactories, Ships, Steamboats, Railroads, Hotels, Garden uses, &c. Its advantages over other Hose are its extreme lightness and cheapness. It will stand as much pressure as Leather Hose, and has proved to be as durable; and all the care it needs after use is to thoroughly dry it in the open air.

For sale, and orders received in sizes from 1 to 7 inches in diameter, in lengths from 100 to 200 feet, by
CHARLES LENZMANN,
54 Cedar st., New York.

Sole Agent for the United States.

Certificates of its superior qualities from the Washington and Brooklyn U. S. Navy Yards; from Alfred Carson, Esq., Chief Engineer of the New York Fire Department; James Smith, Esq., New York, and L. Button, Esq., Waterford, Fire Engine Builders, and from some of the most prominent mills and manufactories at Lowell, &c., can be examined at the office of the advertiser. feb 18—6m

LYON'S KATHAIRON

Has now become the standard preparation for the HAIR. Its immense sale, nearly

1,000,000
BOTTLES.

Per year, attests its excellence and great superiority over all other articles of the kind. The ladies universally pronounce the
KATHAIRON

To be, by far, the finest and most agreeable article they ever used. It RESTORES the Hair after it has fallen out; INVIGORATES and BEAUTIFIES it, giving to it a rich glossy appearance, and imparts a *delightful perfume*. Sold by all dealers throughout the United States, Canada, Mexico, Cuba and South America, for
25 Cents per Bottle.

HEATH, WYNKOOP & CO., PROPRIETORS,
63 LIBERTY STREET, NEW YORK.
Manufacturers, also, of Perfumery of all kinds, and in great variety. 6m.

SANDS' SARSAPARILLA,
IN QUART BOTTLES,
FOR PURIFYING THE BLOOD,

AND FOR THE CURE OF

Scrofula, Rheumatism, Stomach Ulcers, Dyspepsia, Salt Rheum, Fester Sores, Erysipelas, Pimples, Broils, Mercurial Diseases, Cutaneous Eruptions, Liver Complaint, Bronchitis, Consumption, Female Complaints,

Loss of Appetite, General Debility, &c.

TO RELIEVE SUFFERING has been the object of the humane and philanthropic of all ages.—Before the practice of medicine became a science, the sick were publicly exposed in the open air, and every passer-by named the remedy he considered most suitable for the complaint. We possess at the present, day, through the agency of the press, a more reliable mode of conveying information to our suffering fellow creatures. Those afflicted with Scrofula, Cutaneous or Eruptive Diseases, will find in the columns of almost every newspaper and periodical published certificates and testimonials from those who have

been speedily cured of these dreadful complaints by the purifying and powerfully regenerative qualities of Sands' Sarsaparilla.

ASTONISHING CURE.

PATERSON, N. Y.

Messrs A. B. & D. Sands: Gentlemen:—Having witnessed the most beneficial effects from the use of your SARSAPARILLA, it gives me pleasure to send you the following statement in regard to my son. In the Spring, he took a severe cold, and after eight weeks of severe suffering the disease settled in his left leg and foot, which swelled to the utmost. The swelling was lanced by his physician, and discharged most profusely. After that, no less than eleven Ulcers formed on the leg and foot at one time. We had five different physicians, but none relieved him much; and the last winter found him so emaciated and low that he was unable to leave his bed, suffering the most excruciating pain. During this time the bone had become so much affected, that piece after piece came out, of which he has now more than twenty-five preserved in a bottle, varying from one half to one and a half inches in length. We had given up all hopes of his recovery, but at this time we were induced to try your SARSAPARILLA, and with its use his health and appetite began immediately to improve, and so rapid was the change that less than a dozen bottles effected a perfect cure.

With gratitude, I remain truly yours,

DARIUS BALLARD.

We, the undersigned, neighbors of Mr. Ballard, cheerfully subscribe to the facts of the above statement.

H. & R. S. HYATT,
GEO. T. DEAN,
A. M. TROWERBRIDGE,
C. EASTWOOD.

Prepared and sold, wholesale and retail, by A. B. & D. SANDS, Druggists and Chemists, 100 Fulton St., corner of William, New York.

Sold also by Druggists generally.

Price \$1 per bottle; six bottles for \$5. 117

AYER'S PILLS.

A new and singularly successful remedy for the cure of all Bilious diseases—Costiveness, Indigestion, Jaundice, Dropsy, Rheumatism, Fevers, Gout, Humors, Nervousness, Irritability, Inflammations, Headache, Pains in the Breast, Side, Back, and Limbs, Female Complaints, &c., &c. Indeed, very few are the diseases in which a Purgative Medicine is not more or less required, and much sickness and suffering might be prevented, if a harmless but effectual Cathartic were more freely used. No person can feel well while a costive habit of body prevails; besides it soon generates serious and often fatal diseases, which might have been avoided by the timely and judicious use of a good purgative. This is alike true of Colds, Feverish symptoms, and Bilious derangements. They all tend to become or produce the deep seated and formidable distempers which load the hearers all over the land. Hence a reliable family physic is of the first importance to the public health, and this Pill has been perfected with consummate skill to meet that demand. An extensive trial of its virtues by Physicians, Professors, and Patients, has shown results surpassing any thing hitherto known of any medicine. Cures have been effected beyond belief, were they not substantiated by persons of such exalted position and characters to forbid the suspicion of untruth.

Among the many eminent gentlemen who have testified in favor of these Pills, we may mention:

DR. A. A. HAYES, Analytical Chemist, of Boston, and State Assayer of Massachusetts, whose high professional character is endorsed by the

HON. EDWARD EVERETT, Senator of the U. S.

ROBERT C. WINTHROP, Ex-Speaker of the House of Representatives.

ABBOTT LAWRENCE, Minister Plen. to England.
 † JOHN B. FITZPATRICK, Cath. Bishop of Boston.
 Also, DR. J. R. CHILTON, Practical Chemist, of New
 York City, endorsed by
 Hon. W. L. MARCY, Secretary of State
 Wm. B. ASTOR, the richest man in America.
 S. LELAND & Co., Propr's of the Metropolitan Ho-
 tel, and others.

Did space permit, we could give many hundred cer-
 tificates, from all parts where the Pills have been
 used, but evidence even more convincing than the
 experience of eminent public men is found in their
 effects upon trial.

These Pills, the result of long investigation and
 study, are offered to the public as the best and most
 complete which the present state of medical science
 can afford. They are compounded not of the drugs
 themselves, but of the medicinal Virtues only of Veg-
 etable remedies, extracted by chemical process in a
 state of purity, and combined together in such a man-
 ner as to insure the best results. This system of
 composition for medicines has been found in the Cher-
 ry Pectoral and Pills both, to produce a more efficient
 remedy than had hitherto been obtained by any pro-
 cess. The reason is perfectly obvious. While by the
 old mode of composition, every medicine is bur-
 dened with more or less of acrimonious and injurious
 qualities, by this each individual virtue only that is
 desired for the curative effect is present. All the
 inert and obnoxious qualities of each substance em-
 ployed are left behind, the curative virtues only being
 retained. Hence it is self-evident the effects should
 prove as they have proved more purely remedial, and
 the Pills a surer, more powerful antidote to disease
 than any other medicine known to the world.

As it is frequently expedient that my medicine
 should be taken under the counsel of an attending
 Physician, and as he could not properly judge of a
 remedy without knowing its composition, I have sup-
 plied the accurate Formulae by which both my Pec-
 toral and Pills are made to the whole body of Prac-
 titioners in the United States and British American
 Provinces. If, however, there should be any one who
 has not received them, they will be promptly forward-
 ed by mail to his address.

Of all the Patent Medicines that are offered, how
 few would be taken if their composition was known.
 Their life consists in their mystery. I have no mys-
 teries.

The composition of my preparations is laid open to
 all men, and all who are competent to judge on the
 subject freely acknowledge their convictions of their
 intrinsic merits. The Cherry Pectoral was pro-
 nounced by scientific men to be a wonderful medicine
 before its effects were known. Many eminent Physi-
 cians have declared the same thing of my Pills, and
 even more confidently, and are willing to certify that
 their anticipations were more than realized by their
 effects upon trial.

They operate by their powerful influence on the in-
 ternal viscera to purify the blood and stimulate it into
 healthy action—remove the obstructions of the stom-
 ach, bowels, liver, and other organs of the body, re-
 storing their irregular action to health, and by cor-
 recting, wherever they exist, such derangements as
 are the first origin of disease.

Being sugar wrapped they are pleasant to take, and
 being purely vegetable, no harm can arise from their
 use in any quantity.

For minute directions, see wrapper on the Box.

PREPARED BY JAMES C. AYER.

Practical and Analytical Chemist.

LOWELL, MASS.

PRICE 25 CENTS PER BOX. FIVE BOXES FOR \$1.

SOLD BY

P. F. Pescud and Williams & Haywood, Raleigh,
 N. C., May, 1856.

5—y.

GREEN SAND MARL OF NEW-JERSEY.

THE NEW-JERSEY FERTILIZER COMPANY
 Is now prepared to receive orders for this impor-
 tant Manure. For all lands upon which ashes are
 beneficial, the Marl is more than a substitute. Pro-
 fessor Cook, in his Annual Report to the Legislature
 of New Jersey, says:

"The value of these Marks is best seen in the rich
 and highly cultivated district which has been im-
 proved (*almost made*) by their use. But it may be
 interesting to examine the causes of their great value
 in agriculture, and to compare them with other fertil-
 izers. For example: The potash alone may be taken
 at an average as five per cent of the whole weight of
 the Marl; a bushel, when dry, weighs eighty pounds;
 and in the proportion mentioned, would contain four
 pounds of potash. This is usefully as much as there
 is in a bushel of *unleached wood ashes*."

And again: "It is probable that the great value of
 the Marl is to be found in the fact that it contains nearly
 all the substances necessary to make up the ash
 of our common cultivated plants."

Price, delivered on board vessels at the wharves of
 the Company at Portland Heights, Raritan Bay, New-
 Jersey, *Seven Cents per Bushel*.

For further particulars, see Circular, sent *free of*
postage. Orders for other fertilizers will receive
 prompt attention Address either of the undersigned.

CHAS. SEARS, Pres.
 Ricciville Post-Office, N. J.
 Geo W. Atwood, Sec.,
 16 Cedar st., N. Y.

TAPPAY TOWNSEND Treas.,

82 Nassau st., N. Y.

9—1y.

N. B.—Those wishing Marl for Spring use should
 order it immediately, to secure its early shipment.
 Orders will be filled in rotation.

NORTH CAROLINA MUTUAL LIFE INSUR-

ANCE COMPANY, Raleigh, N. C. This Company
 insures the lives of individuals for one year, a term of
 years, or for life, on the MUTUAL PRINCIPLE, the as-
 sured for life participating in all the profits of the
 Company. For policies granted for the whole term
 of life, when the premium therefor amounts to \$30,
 a note may be given for one half the amount of the
 premium bearing interest at 6 per cent. without guar-
 anty.

The prompt manner in which all losses have been
 paid by this Company, together with low rates of
 premium, present great inducements to such as are
 disposed to insure.

SLAVES are insured for a term of from one to five
 years, for two-thirds their value.

All losses are paid within 90 days after satisfactory
 proof is presented.

DIRECTORS.

| | |
|---------------------|----------------|
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| WM. D. HAYWOOD, | WM. D. COOKE, |
| JONH G. WILLIAMS, | R. H. BATTLE, |
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| WM. H. MCKEE, | P. F. PESCU D, |
| CHARLES B. ROOT, | SEATON GALES. |

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TO EDITORS.

EDITORS in this State, who, having advertised the Map for six months, are entitled to a copy, will please communicate the fact to the undersigned, that their copies may be forwarded by first opportunity.

W. D. COOKE,
Raleigh, N. C.

Report of Professors Emmons and Mitchell, to the North Carolina State Ag. Soc., on COOKE'S NEW MAP OF NORTH CAROLINA.

I have had frequent opportunities of testing the correctness of Mr. Cooke's new Map of North Carolina, and parts of the adjoining States. This Map is worthy of special notice: 1st, from the fact that it embraces those parts of Virginia, South Carolina and Tennessee which are of immediate interest to the citizens of this State. 2d, that the eastern part of the State is compiled from data obtained through the determinations of the Coast Survey. 3d, it contains an entirely new feature in its *profile* extending along the line of the Railroad survey from Goldsboro' to Asheville, which exhibits the heights of many interesting points, as well through the central and western parts of the State lying east of the mountains as amongst the Mountains themselves.

In addition to the foregoing it may be justly said that Mr. Cooke has taken unwearied pains to correct the geography of the different counties, and to insert the prevalent names of places, those for instance which have come into use since new lines of travel have been established. It is in fact a New Map, and the only map which can be relied upon for accuracy in its details. It moreover merits commendation for the artistical skill displayed in its execution, its typography being beautiful and distinct.

EBENEZER EMMONS, State Geologist.

In the encomium passed by Prof. Emmons, upon Mr. Cooke's new Map, I fully concur. The particulars mentioned by him are of first rate importance and interest. Most of the maps of the State, heretofore published, have furnished few, if any, indications of the position of any point within our own limits, with regard to the States, north, south, or west of us. This evil has now a remedy. In noticing the map, the very efficient and important aid, in its construction, so fully afforded by Prof. A. D. Bache, Superintendent of the United States Coast Survey, and by Col. Gwynn, having the management of the Survey of a railroad, carried over the Blue Ridge into the valley of the French Broad, should not be passed in silence. Only the portion of the map representing the eastern part of the State has been submitted to my inspection, but to this I presume, the rest will be made to correspond.

E. MITCHELL.

University of N. C., October 21, 1856.

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WILLIAM D. COOKE, Editor. and Publisher.

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Miscellaneous.

On the Selection, Change, Preparation and Sowing of Wheat Seed.

In the cultivation of wheat, the first object is to obtain clean, dry seed, of large or small, flinty or soft, white or dark grain, according to the soil and climate in which it is intended to grow, newly threshed, if possible, even if one or more years old, and steep it in some liquid that has the power of destroying the spores of parasitical fungi, which, although invisible to the naked eye, may still be present in sufficient quantities to produce "black-ball," or "smut," in the succeeding crop.

In respect to the age of the seed, Theophras-

tus says, and after him Pliny, it is best when a year old; if kept two years, it is not so good; if three years old, it is worse, and if older than that, it will not grow. This opinion appears to have prevailed from the days of the Romans in Spain and Italy down to the present time, and the same practice is sedulously adhered to by the farmers in those countries, as well as in Spanish America, whenever attention is paid to this species of culture, who aver that old wheat seed is not so liable to mildew or blight as new; whereas, on the other hand, it has been conjectured that their success may be owing to early sowing, inasmuch as new wheat cannot conveniently be obtained in season, and consequently has to be sown late.

"For seed," continues Pliny, "you should choose the fullest ears, having the fullest berry, and set them apart in the barn, and by no means admit those ears that are not well filled throughout, as in such grain there is danger of producing like ears." But let it be remembered that this rule was intended to apply to the Roman Empire, where wheat was almost invariably sown in the fall, and where the soil was naturally fertile, or otherwise made rich. On the contrary, many of the farmers of Europe choose the smallest and leanest grains for their poor land, acting on the premises that a large plump berry contains a sufficient amount of elementary matter to send forth more "tilers," than an indifferent or meagre soil can maintain, which, in the end, must starve or die.

It is better, they say, in this case, that small seeds should be sown, in order that they bring fewer tillers, which can be well fed and sustained. Whatever mode, however, may be adopted, whether by liming, brining, or otherwise soaking or preparing the seed, it is of much consequence, and the first point to be gained is to get good roots to the plants; for, although the ground may be poor, the larger and fairer the grains strike their roots, the greater the depth or compass they will draw their nourishment.

There is also believed to be great benefits derived from changing seed, not only from one climate to another, but to a different soil. For instance, it is a noted fact that the further north wheat can be made to grow, the shorter is the period of time in which it comes to maturity. It has also been observed, when wheat is grown in the extreme north, if used as seed in a southern country, it gives its first product speedily ripening in a much shorter time, although, in sowing the seed of that product the second year, it loses this quality. Advantage has been taken of this circumstance in Sweden, in annually bringing their wheat-seed from Torneo, at the north of the Gulf of Bothnia, almost within the arctic circle, and sowing it in lands so much exposed to the cold that ordinary wheat, from the shortness of the season, scarcely has time to ripen. By these means, the lands in that country, which were formerly so utterly barren, are now rendered fruitful.—Again, the wheat brought from near the shores the Mediterranean, to many parts of the United States, not only succeeds well, but possesses the property the first year of ripening some days earlier than the ordinary sorts, and thereby often escapes injury from the ravages of insects or the rust, besides the advantage to be gained from an early market. But whether this change is produced wholly from the difference of climate, or from a deviation in the character of the soil, is at present unknown. From numerous experiments made in England, within the last hundred years, it would appear that "plants, like animals, affect to be nourished by a variety of food," which would tend to show that it is not so much the change of climate that occasions these alterations, as in the change of soil. A case is recorded of a farm in England, on which one field had a clay bottom, another a loam, a third a gravel, and the fourth a chalk. These

gave the occupant the opportunity of changing the seed of his wheat every year, who confined himself only to two sorts, the "Red Lammas" and the "Pirks." When he sowed his Lammas on the clayey soil one year, the next he sowed the seed of the product of the same seed on gravel or chalk, which, though not truly the proper soils for this variety of wheat, yet it proved no impediment to its growth, as he seldom failed to obtain a good crop. In a similar manner, he used the Pirk wheat, a variety which grew well in any of the four soils.

In reference to the change of wheat from one climate to another, there are numerous facts on record in connection with which there appear to have been some phenomena, that were as inexplicable as they were opposite in their effects. As instances, it may be stated that one of the companions of Columbus, 362 years ago, made the first attempt to cultivate wheat in America, whose experiment was attended with the most satisfactory result. The seed was introduced directly from the west of Spain, without any intermediate acclimatisation, to the settlement of Isabella, on the north side of St. Domingo, in latitude about $19^{\circ} 58'$ N. "On the 30th of March, 1494," says the historian, "a husbandman brought to Columbus ears of wheat which had been sown in the latter part of January." Wheat has also been brought from England, and sown in various parts of the West Indies, both with and without success, particularly in the Bahamas, Antigua, and Barbadoes; but, as failure to an equal extent was the result of experiments with wheat the growth of warmer climates, as Sicily, Poonah, &c., and as the temperature of the cycle wheat varies little from the mean temperature of the cooler months in the West Indies, I should be inclined to look for some other cause of failure than the mere abruptness of introduction. It may be asked, why the experiment of 1494, made with the wheat introduced directly from Spain, should have succeeded so fully, while "Talavera" wheat, the produce of the same part of Spain, and "Poonah" wheat, the produce of the elevated, but hot district in India, adjoining Bombay, should have wholly or partially failed in 1840? The "Victoria" wheat produced from Caracus seed, sown in England, retained its native properties unaltered by the change of climate, and succeeded in

the West Indies, as well as that introduced directly from the region adjacent to La Victoria and San Mateo. Again, Humboldt, in the fourth volume of his "Personal Narrative," says that "the finest harvests of Egypt and the kingdom of Algiers, and those of the valleys of Aragua and the interior of the island of Cuba, sufficiently prove that the augmentation of heat is not prejudicial to the harvest of wheat, unless it is attended with an excess of moisture or drought. To this circumstance, no doubt, we must attribute the apparent anomalies experienced in wheat-culture in the torrid zone.—We are astonished, says the same author, to see to the east of Havana, in the famous district of Quatro Villas (the wheat region) this limit descends almost to the level of the ocean; while, to the west of Havana, on the slope of the mountains of Mexico and Xalapa, at a height of 4,312 feet above the level of the sea, the luxuriance of vegetation is such that wheat does not form ears.

It may here be remarked, that experiments like the preceding are valuable as far as they go, but they should be received with caution, as many other circumstances should be taken into consideration before they can be adopted as conclusive. If, in addition to the particulars referred to above, chemical analysis of the soils on which the wheat was cultivated, as well as of the manures employed, had been given; if the nature and yield of previous crops had been stated; and, if the mean temperature and extremes of heat and cold in each month of the year had been recorded, together with the amount of rain and snow, sunshine and shade, force of the wind, and the occurrence of early and late frosts, we would then have had elements by which to judge of the accuracy of these results.

Wheat in this country, as well as in some parts of Europe, is subject to the "black-ball," or "smut." It is no guarantee against this intruder to employ seed which may have been entirely free from it during its growth. For the spores of the fungus which produces it, for aught we know, may be lurking about in the barns or stacks, or even in the air itself, and thus be brought into contact with the seed employed. When the wheat is in the green ear, the smutty ones may be discovered as they stand, but they are more readily observed when nearer maturity, by rubbing the diseased

heads, when a black powder will fly out, emitting a disagreeable smell. This disease in wheat sometimes happens only on one side of the ear, while the other parts appear to remain perfectly sound. A case is on record in which the west sides of the ears of a whole field were affected with smut, while their opposite sides were free throughout. "Smutty grains," says Tull, "will not grow, for they turn to a black powder; but, when some of these are in a crop, then, to be sure, many of the rest are infected, and the disease will show itself, if the year wherein it is planted prove a wet one."

The following are a few of the most reliable modes that are employed in Europe in getting rid of this troublesome pest: Metzger, of Germany, after a trial of 22 years, found only one single injured ear in all his crops, by mixing the seed with soap suds or slacked-lime. The wheat was prepared three days before it was sown, or until it began to germinate. He says: "If sown earlier after mixing with the lime, it will be liable to smut."

Morton, in his "Cyclopedia of Agriculture," a recent English publication, considered as the highest authority, says: "The old agricultural pharmacopœia gave chamber-lye and caustic lime as the grand recipe for the destruction of the black-ball, and sometimes washing with salt and water was recommended. Both plans might mitigate the evil, but neither of them ever prevented it. Fortunately, sulphate of copper (blue stone, or blue vitriol) was thought of, and there can be but one opinion as to the perfect efficacy, when properly applied." The quantity generally used in pickling new wheat is 1 1-2 pounds of blue-stone, dissolved in 2 gallons of hot water, which is sufficient to prepare 8 bushels, the liquid being allowed to cool before sprinkling it on the wheat. There is little risk of injuring the seed by an overdose, as half a pound of blue-stone has been applied to a bushel without injury to the seed. Old wheat can also be pickled with perfect safety with blue stone—a thing that never can be done without great danger, when chamber-lye, or salt and water and lime, are employed. The quantity of blue stone for old dry wheat never need exceed 1 1-2 pounds to each 8 bushels, but 2 1-2 or 3 gallons of water are necessary for saturating the seed.

The mode of pickling wheat with blue-stone is exceedingly simple, and this of itself is a

great recommendation in its favor, even although it were not more efficacious than the older methods of pickling; but, when simplicity and efficacy are united, there is no excuse for any farmer who may still obstinately stick to imperfect and obsolete practices. All that is necessary, in pickling with blue stone, is to dissolve it in hot water in the proportions before stated; then spread out the wheat about six inches thick, on a stone floor, sprinkle the pickle equally over it, and mix thoroughly with shovels until the wheat has acquired a uniform degree of dampness. It will be ready for sowing in the course of two or three hours, but it is better to have the pickling done a day before sowing. Many farmers pickle the whole of their seed wheat at once, and let it lie for years before sowing, not only without injury, but with evident advantage; the blue-stone thus appearing to possess the power of defending the germ against atmospheric influences, while, at the same time, rats and mice will not touch wheat so pickled, unless greatly pinched for food.

According to Cato, cold wet land should be sown early with fall or winter wheat, and warmer or drier ground reserved to be sown late, which is confirmed by Palladius, who says, in his calendar for September: "In this month, in wet, barren and cold ground, and in places shaded from the sun, wheat should be sown in clear, serene weather, about the time of the equinox, in order that the roots may have time to grow strong before winter sets in." And Columella cites as an old saying, proverbial among the Roman farmers: "Early sowing often deceive—late, never," which leads us to infer that, such places as are naturally cold should be sown first, and those which are warm and dry, last. These expressions, let it be remembered, are purely Southern, and apply to the warmer parts of Italy and Spain, but would not answer for the Middle and Northern portions of the United States.

In Italy, they sow their wheat on heavy and strong lands in September and October, which, as well as November and December, are drier than January and Feb'y; therefore, such lands may be expected to work better, as the casting of the seed into a warm, and dry bed, especially if the ground be cold, is of great consequence, whatever weather may afterwards occur. Nor are the Italians less judicious in sowing their drier lands in January and February

when they are naturally watered by warm and copious rains.

In the middle and colder parts of the United States, where the land is cold, stiff and strong, wheat is found to do best when sown late in August or early in September, which enables the roots to get a good start and better resist the winter's cold; but if the ground be warm, dry and rich, the time of sowing may be prolonged fully a month.

Summer or spring wheats may be cultivated only in those districts where the winter varieties will not bear exposure to hard frost and long-remaining snow; or where it will not thrive on account of too little summer's warmth. In those regions in which winter wheat will thrive, the summer varieties only prosper where there is frequent and sufficient rain; in dry and hot climates and seasons, they will not succeed. They require the same kinds of soil as winter wheat, but more manure, or, at least, a larger quantity of humus, or vegetable mould. They must be sown as early as practicable in the Spring, in order that they may have time to tiller before the heat of summer; they must also be sown thicker than winter wheat, as the produce is universally less and they are more likely to smut and rust.

As to the quantity of wheat which may be sown to the acre, it should vary according to the quality of the ground, the nature of the climate, the period of sowing, the variety cultivated, and the mode of committing the seed to the earth. Therefore the proportion of seed that is necessary must depend upon the above named circumstances and local experience. As a general rule, when sown broadcast on good land, in the fall, the quantity will not vary far from 2 bushels to the acre; but when the sowing takes place very early in the Spring, the quantity may even be increased to three bushels. Where the "drill," or "dibble" system of culture is practiced, considerably less seed may suffice.

D. J. B.

CHILBLAINS.—To cure chilblains, simply bathe the parts affected in the liquor in which potatoes have been boiled, at as high a temperature as can be borne. On the first appearance of the ailment, indicated by inflammation and irritation, this bath affords almost immediate relief. In the more advanced stages, repetition prevents breaking out, followed by a certain cure; and an occasional adoption will operate against a return, even during the severest frost.

On the Manufacture of Salt.

BY WM. C. DENNIS, OF KEY WEST, FLORIDA.

As far as my knowledge extends, there is no great agricultural country but ours where common boiled salt, either from sea or spring water, is generally or even considerably used for culinary purposes. In Holland, they redissolve two or more kinds of solar-evaporated salt, one of which is "French bay salt," in sea water; and this incorporated pickle is carefully purified in various ways, and then re-crystallized, before it is considered fit for use. From the use of this salt, numerous writers ascribe the superiority of Dutch Herring, over those of their neighbors. Even in Poland, which has the most extensive salt mines in the world, French bay salt is generally employed, not only in preserving provisions but, what appears more singular, as a manure for their wheat lands.

In all countries where the French bay salt is known, its superior quality is acknowledged. Some years ago, the commissioners of supplies of the army and navy of Great Britain employed Dr. Henry, of Oxford, to examine different kinds of salt, with the view of improving their own domestic article, so that it could be safely used for salting provisions for those services; but, in an essay which he wrote on the subject he failed to suggest any remedy, ascribing the superiority of solar evaporated salt principally to the greater hardness of its crystals made in that way over those made by boiling. There is without doubt, much truth in this; but Dr. Watson, of England, who wrote about the same time, probably discovered the chief cause of the superiority of solar salt. His idea was that, by the slow process of evaporating brines by the heat of the sun, the chemical affinities of each particular kind of salt, which might be contained in those brines, had time to act; and they re-deposit themselves distinctly and separately, one kind of salt not being compelled, as it were, to mix with another, as it must necessarily do in the rapid process of boiling down brines and crystalizing the salt in kettles. So far was he convinced of this, that he urged the use of coarse canvas on an extensive scale, which was to be dipped in the brine, and then exposed to the sun and wind to hasten the evaporation. Yet, as far as I can obtain information, nothing has been done

in England to improve the salt made there, so as to invalidate the truth of some remarks made in Ree's Cyclopaedia, just after the close of the general war in Europe, in 1815, on the subject of French bay salt. The writer says: "The English and Dutch have often striven hard, in time of war, to do without the French salt, and to that end have endeavored to take salt from the Spaniards and Portuguese; but there is a disagreeable sharpness and acidness natural to this salt, which renders it very unfit for salting flesh, fish, &c. To remove this, they boil it with sea-water, and a little French salt, which they procure by the aid of neutral nations, and which, not only softens it, but increases its quantity by one-third. But it would seem that their refining does not succeed to their wish, by the eagerness with which they return to the salt of Brittany as soon as any treaty has opened the commerce." The same writer goes on to say, that the French government makes enormous sums out of the salt works of that country. Nearly all European nations, in a great measure, strive to be independent of others for their salt. Great Britain exports much more than she imports, besides making the great quantity which is there consumed yearly in the arts, and for manure.—Salt is manufactured at various places in that country; but the great bulk of it is made near Liverpool, on the opposite side of the river Mersey, by dissolving the impure rock-salt from the mines of Cheshire, in sea-water, which brine is boiled down and crystalized by a very rapid process, that leaves the salt both impure and very light, only weighing 52 pounds to the bushel; while good solar salt weighs from 70 to 75 pounds, a difference of more than 20 pounds. This Liverpool salt we import to an enormous amount; yet no other people than ours use it for salting provisions, except those living in Canada, or perhaps Australia. There is also a kind of salt made in England and Scotland, which is tolerably pure, and is frequently used for domestic culinary purposes. This is the "cat salt." It is crystalized on stakes placed perpendicularly below the baskets in which the salt is put to drain when drawn from the boilers or kettles. Thus do they make a small quantity of salt, rather purer than the great bulk of it; and every one who is acquainted with chemistry can see why this "cat salt" is much better and purer

than that drawn from the kettles. Common salt crystalizes much more rapidly than any other contained in the brine, when it is at the proper strength; consequently, alone, it would be apt to crystalise on the stakes, the impurities of every kind having a chance to flow off, which is not the case when the salt is rapidly crystalized in boilers, as in the latter case it is necessarily incorporated, more or less, with the crystals of chloride of soda, or common salt. In fact, the crystalization can be by no means perfect, nor the crystals pure, where the progress is so much hurried, as is the case where salt is boiled.

All the salt made in the United States, with few exceptions, is liable to the same objections, in a greater or less degree, to that which is made in Great Britain, as it is almost the universal practice to evaporate the brine by boiling. But I am informed that solar heat is used to a limited extent for evaporating the brines at the salt-works in the State of New York, and, and likewise in many of the works in the great Salt Basin of the Kanawha river. To effect this, shallow wooden pans, or tanks, are erected, well above the earth, in long lines, but of limited width, so that covers can be rolled on or off to protect the pickle from rains. It will be seen, when we come to the French method of making salt, that even this degree of tardiness in evaporation is of great use in purifying the brine, wherever it is practiced.

The French method of salt-making varies, in many particulars, in different parts of that country; but one principal is observed in all places: That is, to keep the brine, or pickle, moving slowly from one reservoir, or basin, to another, from the commencement of the operation till it nearly reaches the point of saturation. This is effected on the salt marshes near the mouth of the Loire, by letting seawater into large reservoirs, built for the purpose, at the time of high tides, by means of swing gates which close when the tide recedes. From these reservoirs, the water in them, being of sufficient height, is let into a series of smaller reservoirs and pans, to a depth of a foot, down as low as 4 inches, the latter being the usual depth of pickle when crystalized in pans. When these pans are "set," as they say, seawater is let out of a large reservoir, whence it finds its way slowly into the whole series of smaller reservoirs and pans, care being taken

that only a very shallow "charge" is let into the crystalizing pans, while the pickle is weaker than about 18 deg., Baume's hydrometer. To get brine into these pans, from a great reservoir, in many works, it has to traverse from 3 to 10 miles, which is effected by its widening from reservoir to reservoir, and from pan to pan; the distance being likewise increased by long narrow passages. After the first charge, no water is let into the crystalizing pans weaker than 18 deg., and even the first charge, by the management indicated, is nearly up to that.—The crystalizing pans are last in the series, and from the fact that, as the brine flows forward, that behind "pushes," as it were, that which is before it, forward, without mixing with it. As the sun evaporates the water from the whole works, the water which is daily let in from the sea to supply its loss, instead of mixing with the strengthened brine, forces it forward from reservoir to reservoir, until a part of it arrives at the last crystalizing pan in the series; by which time, if the passages be of sufficient length, the pickle will be up to saturation, ready to deposit crystals of common salt. Great ingenuity is frequently shown by arranging even small works so that the pickle will flow a great distance before it arrives where it is to be crystalized.

The principle can be extended to suit the size and form of the works, from the fact stated that in feeding them from the great reservoir, the incoming water pushes the brine before it without mixing to much extent, so that the brine can be evaporated to the point of saturation, in the crystalizing pans, in a much shorter time than if the water were let in directly to all parts of the works to supply the daily loss by evaporation. For instance, take a series of twelve small reservoirs: Let it be supposed that the water is let into all of them to the depth of 6 inches. In one day, a quarter of an inch is evaporated out of each. Now, instead of letting the water into each one separately, to supply this loss, we will suppose that the whole twelve quarters (3 inches) be let into No 1; it does not mix, but pushes forward 2 3-4 inches of water into No 2, which has had the advantage of one day's evaporation. From No. 2, there is 2 1-2 inches of brine of like strength pushed forward into No. 3; and, so on, till we arrive at No. 12, into which only a quarter of an inch of brine has been pushed of the same

strength. Again there is a quarter of an inch evaporated out of each, on the second day ; and again, on the morning of the third day, we will say, there is another three inches of water let into No. 1, and the loss supplied to each as on the day before ; but it will be seen from what has been said that, except No. 1 and No. 2., perhaps all the rest have had their loss supplied by brine which has had three-days evaporation. This same system being preserved, on the twenty-second day, No. 12 would be up to the point of saturation, and six days more would be ready to rake ; and before the end of 40 days, even in so short a series as this, full half of these reservoirs, or pans, could be raked, which makes this French plan of vast importance in a climate so variable as this ; for, frequently, a very good yield of salt can in this manner be secured, when not a crystal would be found if the Spanish and Portuguese method were adopted. To feed each pan directly from sea-water, it would take full ninety days to perfect the deposit, ready for raking, when it might then all be lost for rains, because they all come at once, and if a large one, it might take three months more to rake it. By the French plan, the whole deposit does not take place at once ; but at the end of ninety days, quite a large quantity would be saved. Furthermore, this plan is of still more value, by its depositing all impurities by themselves. Sea-water, by Baume's Hydrometer, is from 4 to 5 degrees ; and as soon as it is strengthened up to 6 deg., it begins to deposit lime, which finally assumes the form of marl, and afterwards, under certain circumstances solidifies into rock. After the water gets stronger, if it be kept in slow motion, these deposits gradually become much greater to which are now added sulphurated hydrogen, bromine, and probably iodine. When it gets as high as 12 deg., it begins to deposit sulphate of lime in crystals, and the quantity of sulphurated hydrogen is increased, and the bromine is so freely deposited that every substance in contact with the brine is stained a deep-red ; but, after the pickle is evaporated up to 18 or 20 degrees, it appears to deposit nothing more till it gets up to 25 deg., when the brine is in a state of saturation with chloride of soda, (common salt,) and then it begins to crystalize, and in about six days more, in good weather, it deposits a layer of crystals, which are sufficiently hard, or, as it is termed, "ripe" to rake. The

"sharpness or ferocity" of the Spanish and Portuguese salt (Cadiz and St. Ubes) is easily accounted for by the manner in which it is made. The sea-water is let directly into the large pans, where the salt is ultimately crystalized ; and, before the brine is evaporated to 25 deg., the bottoms of the pans are covered 2 or 3 inches deep with impurities, and in this bed of filth the common salt crystalizes. But when it is raked, instead of the transparent white crystals of pure salt, we see them stained a reddish brown, and the taste alone indicates that they are highly charged with both bromine and iodine, besides other impurities. Much of this salt cannot be used in less than a year after it has been raked ; but it never loses that disagreeable "sharpness and ferocity." The same remarks apply to the salt made in the Azores, or Western Islands.

So valuable is French salt considered, that the same principle of manufacture is applied in the south of Germany, as near as their climate will admit. In connection with an extended surface, arranged after the manner above described, they have enormous tanks with moveable covers, into which they gather the strengthened pickle when they fear rain, and there secure it until good weather, when it is spread again till it is up to the point of saturation, or nearly so, when it is secured in these tanks to await being crystalized, which, instead of being done in ground pans, is usually performed in large lead boilers ; or more frequently, what is much better, they pump up the hot saturated pickle into small tanks placed around the top of a frame some 20 to 30 feet high, and of convenient dimensions, on the ground. From this hang ropes perpendicularly, some 6 inches apart, on which small streams of this brine are conducted from the small tanks, and the crystals form rapidly on them—in fact, so rapidly, as stated by Dr. Ure, that the same work, in proper weather, can be done in this way in 24 hours which would take three or four days by boiling in kettles, besides making the salt much purer. When these ropes are sufficiently loaded with salt, it is knocked off to fall on the floor beneath, when it is ready to store or for market.

One might think this a wasteful mode of crystalizing salt ; but, from some experiments I have made, I am satisfied that, with proper care, a little is lost as by any other process. Further-

more, I believe that in this climate, (Key West,) it will not be necessary to heat the saturated pickle at all to crystalize salt in great perfection. Hence there can be no doubt that salt can be made principally if not wholly, by solar heat, anywhere in the United States south of New Jersey, in suitable places on the seaboard. In the south of Germany and in many parts of France, they do not depend entirely on evaporating the pickle by the system above described, on the ground, but increase it, especially while the brine is yet weak, by arranging bundles of faggots perpendicularly in frames which are frequently from 20 to 30 feet high, and 50 by 100 or more feet on the ground. The brine is repeatedly pumped up to the top of this frame, and let down in showers through the faggots. Any one must see that evaporation is very much increased by presenting so great a surface to the wind and sun.

I have been thus minute in setting forth the high value placed on solar-evaporated salt, manufactured after a particular manner on the continent of Europe, and, likewise, for the purpose of showing the great difficulties and expense many nations there seem to think it to their interest to encounter in order to obtain an article of this sort.

I will now add some of my own personal experience in the way of salt-making in this region: In 1836, there was a salt company formed on this island. Wooden pans, like those formerly used at Cape Cod and New Bedford, were erected to a considerable extent. I believe there were put up at the time about 3,000 feet, linear measures, of these works, which were 16 feet wide, and had covers to roll on and off, to protect the pickle from the rain. Of the natural ponds on the island only very small portions were improved, and this solely for the purpose of strengthening the sea-water before it was pumped in the wooden works; but no attempt was made to make salt in ground pans. Although they made four or five times as much salt in these wooden tanks, in a given time, as could be made in a like amount of works, in New Bedford or Cape Cod, from the fact that they could generally evaporate the pickle to saturation before pumping it up; yet they could hardly be said to be successful. The salt which they made was very pure, as they adopted the plan of having the pickle traverse a considerable distance before pumping it into

the works where it was crystalized; and it acquired a very high reputation for salting beef and fish; but the crystals were too fine for pork. In 1846, these wooden works were nearly all destroyed by the great hurricane of that year, after which this company sold out to a private individual, who re-erected some part of the works in wood, out of the debris of the storm, and turned his attention to making ground pans, for the purpose of crystalising salt in them. He did but little in this way; yet he was quite successful, in 1847-'48, making over 70,000 bushels per annum with 4 or 5 hands on the place. In 1849-'50, he made less; but, considering the limited amount of improvements, he had a fair yield; having raked about 50,000 bushels in these last two years. In 1861, the works came into my possession, but as I had only commenced the business, and the season being very short, I raked only about 20,000 bushels out of the ground pans, besides some 15,000 bushels produced in the covered works. This was done with the average labor of only six hands. The year 1852 was very wet and the crop small, and in '53, more rain fell than was ever before recorded. In the mean time, I gave my chief attention to improvements, and last year, (1854,) I made full 70,000 bushels, although about 20 inches more rain fell than the recorded average for nineteen years. Each month of the salt season, had its due share of this excess, which was from February to August, inclusive. To make that quantity, required the average labor of eight hands for the year, to perform everything connected with it, in the way of securing and delivering for market. The present year, 1855, has been a very singular one for this climate, there having been scarcely a week from February to the end of September, without some rain; and, in addition, the winds have been continually both cold and damp yet, from the nature of my improvements, on these occasions, in the course of the season, there was on the works almost an unlimited amount of pickle up to saturation, or nearly so. This pickle I could have saved, and afterwards crystalized on ropes, after the German plan, had I had the tanks finished, which are now well advanced. I should here state, that there has been a very singular increase of rain on this island for the last five years, including 1850 up to the present time. In this period, the ave-

rage has been something over 50 inches of rain per annum, while the record of the preceding nineteen years gives an average of only 31 1-2 inches. The Patent Office Report for 1853 gives the average of fourteen of those years at 31 4-5 inches. From this, the expectation is but reasonable that the yearly average must hereafter agree, or nearly so, with the record of the longest period; for it is known that those who made this record are noted for their accuracy. Yet, it is proved that salt can be made here in ground pans without the aid of covered tanks, during the years of the heaviest fall of rain to which the island is ever subject, provided the weather is otherwise favorable. In 1854, about 52 inches of rain fell, and, as before stated, a full proportion in the salt season; and the weather was otherwise hot and dry. I am informed that there has been a like increase in the fall of rain for the five years in Turks Island and in the Bahamas, which I presume accounts partially, at least, for the scarcity of salt in those islands for the last two years, notwithstanding the great accumulation of the article there in former years. This scarcity makes it a part of wisdom and economy, in this country, to increase in every possible way the supply of the better kinds of salt.

To aid in this purpose, I will give a brief description of the plans which I have adopted here to make the most of these local advantages; and, when these plans are all perfected, I have no doubt that the business will be rendered reasonably safe and successful, even during the wettest seasons which we have on these Keys; and when such years happen as I am informed 1842-'3 were, and again, those of 1847-'48, the only limit to the yield of salt would be in the limit of the labor at command to rake and secure it. There are other Keys on this reef, which I presume have like advantages with this, and when we consider the mildness and healthfulness of the climate, especially for a certain class of invalids, it would seem that these advantages are worthy of being appreciated.

Key West is almost four miles long, and nearly one broad; and from the north-eastern end, through the centre of it, for some two and a half miles, there are series of natural ponds which are from one to two feet lower than me-

dium high tides. These ponds were connected together, originally, but separated from the sea by a ridge, over which the water never flowed, except in times of very high tides. From this situation, even before the ponds were improved, salt was frequently made, naturally, by the high tides of early winter flowing into them, the water in them being sufficiently evaporated, before return of the next high tides in the following July and August. Thus, as I have been informed, were many cargoes raked by the crews of vessels, and taken away. Outside of this low ridge, which shuts out the low tides from the ponds, I have inclosed a large bay with very shallow water, which contains some 100 or 150 acres; by connecting two points of land by a substantial dam. In this is fixed a swing-gate, such as is used in Turk's Island and the Bahamas, which enables me to shut in the sea-water from the Gulf stream, at high tide. This arrangement is such that, by a short canal through the ridge, I can convey water at pleasure to every part of the natural ponds, which, by means of more than 20 miles of embankments, are made into a series of reservoirs that contain in full the principles herein laid down. Out of the bay, at a point furthest from the swing-gate, where the evaporation is sure to be the greatest, the canal is dug which lets the salt-water into the highest part, whence it flows from one into another, forward and backward, till it arrives at the last and lowest one in the series, by which time the pickle has traversed about 14 miles. In good weather, the water is not only purified, but is up to the point of saturation, or nearly so. At any rate, it is in a fit state to be pumped up by wind-mills into the crystalising pans, which in this case are built on a level from 12 inches to 3 feet higher than the reservoirs. These have bottoms prepared with sand and marl, which become quite hard, enabling us to keep the salt clean while raking it. These pans are also enclosed with stone and marl walls, and vary in size from 50 feet square to an acre or more. They are likewise arranged so that the pickle flows from the highest to the lowest, through, the whole series, which still further purifies the water and hastens the crystalizing atom. It is really astonishing to witness the amount of impurities which are thus deposited from the sea-water. In some of the reservoirs, at the end of the sea-

son, there are nearly 6 inches of the half-floating deposits of one summer.

I do not pump any but perfectly saturated pickle into the covered wooden pans, of which I have some 2,500 feet in length. The salt from these is very heavy and pure, being invaluable for salting beef and fish, but the coarse salt from the ground pans is better for salting pork. Fishermen, here, and in the vicinity, will use for their purpose none but the finer kind of salt made in covered works; and I have been informed that fish in the Havana market salted with it, even when they are dry salted, command a higher price than those cured with any other kind.

I have from 300 to 400 acres of surface now in the series of reservoirs, and, by further improvements, I can more than double that amount. Of crystalising pans, I have from 50 to 60 acres, amply sufficient for the present surface of reservoirs; and I have room to increase to any necessary extent. The tanks which I am building are 50 by 100 feet on the ground, and 10 feet deep, 5 feet of which is dug down into the solid rock, but even this part of them will be lined with concrete, made of hydraulic cement, sand, and broken stone.—They are to be covered by movable roofs, 20 by 25 feet, so constructed as to roll on and off from each side to the centre. These tanks, with ropes arranged as before described, to crystalise the pickle on, will render a fair yield certain, even in a wet season; and I think salt, crystalized in this manner, out of brine previously purified in the reservoirs, will be even better than that made wholly in the pans.

From personal observations of the use of Key West salt, I am convinced that no other, except, perhaps, the very best Turks Island, is so well fitted for salting provisions of all kinds. I say the very best Turks Island, for in a great number of the works there, and in the Bahamas, the salt is sold under the same general name, and where they have applied the purifying system, too, but to a very limited extent; and at many of the works salt is made after the plan adopted in Spain. It would seem that many brines have a disagreeable taste, which no practical method can remedy, and that on the whole, that made from sea-water is usually better than that which is made from springs. Furthermore, it is very probable that there is a great difference in sea-water

from divers localities. This supposition is in a measure confirmed by the salt made everywhere from the Gulfstream, as it is better than that made in Spain, Portugal, the Azores, &c., all of which produce an article that has a sharpness of taste, which is never present in the other kind, made from the great ocean current; but even this kind varies much in quality by the pains taken in purifying the pickle.

It is only during the time of raking salt from ground pans, and sometimes for a month or more, when the demand is brisk, to deliver it, that many hands can be profitably employed at the salt works here. Even in favorable years, a full force is not needed, after all improvements are made, for more than six to eight months. Consequently, some other business should be connected with salt-making on these Keys, the culture of Sisal hemp, for instance, in order to render it more profitable. During the rest of the year, only a few hands are required.

The Repulsion of the Yellow Bug from Pumpkin Vines, &c.

Messrs. Tucker & Son—The class of vegetables liable to the attack of the yellow bug, though not staples, are yet important. The pumpkin, as ordinarily cultivated by the farmer, in the corn-field, is valuable in connection with the fall feeding of beef and pork, and the production of milk. It is the more valuable to the farmer because, when cultivated in connection with corn, it is produced so cheaply. The winter squash is a valuable item in the stores of the family. The cucumber in July and August, and melons of all sorts in August and September, become cheap luxuries wherever there is a light soil and a sufficiency of heat to ripen them. The greatest obstacle often to their production is the attack of the yellow bug.—And yet his repulsion is readily and cheaply accomplished.

MODES OF REPULSION.

1. Cover the hill, just as the plant begins to appear, with thin bats of cotton or flax tow, securing them against the wind by earth placed on the edge. The rising plants will lift up this covering. It may be removed altogether when the plants make the fourth leaf. Such a covering excludes a portion of the light and air

from the plant, while, on the other hand, it secures it from harsh winds and light pests. On a small scale in a private garden, I used this mode with great success in my 'oyhood.

2. *Millinet covered boxes.*—These are made about 12 or 15 inches square, and about 6 or 8 high, of thin boards, the top being covered with Millinet, put on with carpet tacks. A light brace ought to be let into the top of the box, across one course, to prevent the box from working out of shape, before the covering is put on. This box is also a protection against wind and light pests, though, by shutting off a portion of light, it hinders the growth somewhat in fine weather. Even without the addition of the millinet this box is usually a protection against the bug.

3. *Dirt mounds.*—In light, sandy soils, and for field or market garden use, this mode is much more ready and cheap than the preceding. Prepare yourself, first making a moulding frame. This is done by taking good pine boards about 8 inches wide, sawed into four pieces so as to make a beveling box about one foot square at the bottom, and fifteen inches at the top. A brace should be let in and nailed firmly across one of the corners, the whole thing being made like the box in No. 2 above, except that it is made beveling and much stronger.

Place this box around your hill of melons or cucumbers. Then let the earth be firmly banked around the outside up to the top of the box. Then strike the box a light blow on one side to loosen it a little, when it may be lifted out, leaving a firm, sloping bank around your hill.—Two men should always work together in making them, standing on opposite sides. I used such banks many years in a market garden.—They may be made probably for one-half-cent a piece. When properly made they will stand a heavy rain uninjured. The second time of working among your plants they may be removed readily with the hoe. Occasionally the bugs will get into these earth boxes; but, all things considered, I prefer them to any mode I have ever used. They, too, like board boxes, protect the young plant from the cold winds.

4. *Tomatoes sown among and around your vine plants.*—This plan has often been recommended. I have not tried, but certainly think very favorably of it. It is easy, near the close of the summer, to save to-

mato seeds cheaply and in large quantities.—Less perfect fruits may be selected than those used for your main crop. In dropping your melon or other seeds, drop a few tomato seeds with them, and a circle around them. Then cover all up. The tomatoes will spring up as soon as the vines, and gain height faster.—When your vines are out of the way of the bugs, pull up your tomato plants carefully, and throw them away.

In preparing your tomato seed for use, first soak them a few hours, and then mix them with fifteen or twenty times their amount of wood or coal ashes sifted. Stir them well together. In the use of this compound you will be able to sow your tomato seed more speedily evenly, and economically, than you could if trying to sow them alone.

It is sometimes recommended to bring forward your tomatoes for this purpose in a hot bed, then transplant them to your cucumber and other hills, but this method will be quite too expensive for the farmer and market gardener.

5. *Mixtures of fresh wood ashes, plaster, snuff, flour,* the latter being used to produce the adhesion of the other things, are often used, and with more or less good effect. When the proportion of ashes is too large they sometimes burn the plant. Such mixtures are, at best, but an imperfect protection of the plant, at least they have been so in my experience.—They also need renewal after heavy rains.—One imperfection attending their use is the almost impossibility of applying them to the lower side of the leaf of the plant, where often the bug works the most fatally.

The application of a cheap wash with a syringe—a wash having a permanent and offensive odor and taste, but one not acrid, might be useful. Of what such a wash should be constituted, experience alone can determine. Many things highly offensive to one species of animal are not so to another.

In conclusion, my experience throws me back on the millinet covered box, for the market garden, as being the cheapest and surest modes of defence. C. E. GOODRICH, *Utica*, 1857.

FRIENDSHIP:—The sigh that rises at the thought of a friend, may be almost as genial as his voice. 'Tis a breath that seems rather to come from him than from ourselves.—*Milton*.

Forage Plants.

Among the forage products more recently introduced, and one which would seem to deserve special notice, is the "Chinese sugarcane," (*sorghum saccharatum*), a new gramineous plant, of Chinese origin, but more recently from France, by the way of Natal, in South Africa. Since its introduction into this country, it has proved itself well adapted to our geographical range of Indian corn. It is of easy cultivation, being similar to that of maize or broom-corn; and, if the seeds are planted in May, in the Middle States, or still earlier at the South, two crops of fodder can be grown in a season from the same roots, irrespective of drought—the first one in June or July, to be cut before the panicles appear, which would be green and succulent, like young Indian corn, and the other, a month or two later, when or before the seed is fully matured. The amount of fodder which it will produce to the acre, with ordinary cultivation, may be safely estimated at seven tons, when green, or at least two tons per acre, when thoroughly cured. The stalks, when nearly mature, are filled with a rich saccharine juice, which may be used for dyeing wool or silk a permanent red or pink; and the entire plant is devoured with avidity, either in a green or a dry state, by horses, cattle, sheep and swine.

Considered in an utilitarian point of view, this plant, perhaps, has stronger claims on the American agriculturist than any other product that has been brought to this country since the introduction of cotton or wheat. Aside from other economical uses, its value, for feeding to animals, alone, in every section of the Union where it will thrive, cannot be surpassed by any other crop, as a greater amount of nutritious fodder cannot be obtained so cheap, on a given space, within so short a period of time.

When Cato was asked what was the best system of farming, he thrice answered, "bene pascere"; which is to be translated, "to graze well," or to procure food for cattle—having had in view the connection between the feeding of stock and the production of manure. Admitting the above axiom to be true, what more economical, sure and feasible mode can be adopted to restore and maintain the fertility of the exhausted lands of this country than to ex-

tend the culture of this plant for the rearing and support of a larger number of cattle, or other animals, and enriching these lands with the manure? Without wishing to present the question in an extravagant light, it may be stated that this crop is susceptible of being cultivated, within the territory of the United States, to an extent equal to that of Indian corn, say 25,000,000 acres per annum; and, estimating the average yield of dry or cured fodder to the acre at two tons, the yearly amount produced would be 50,000,000 tons, which, to keep within bounds, would be worth at least \$500,000,000, besides the profits derived from the animals in milk, flesh, labor, and wool.

In addition to what is given above and in other parts of this volume, respecting the growth and culture of this plant, it may be stated that it will resist the effects of considerable frost without injury, after the panicles appear, and that those who wish to save the seeds for planting should not cultivate it in the vicinity of Dourah corn, Chocolate corn, nor broom-corn, as it hybridises or mixes freely with those plants, which would render the seeds of the product unfit for use.

The German Millet, (*Panicum germanicum*), another annual forage plant, has been introduced from France, which has proved very productive, is quick in growth, resists drought, and even flourishes well on dry soil.—*Patent Office Reports*.

Putting down Butter.

When butter is designed for keeping a number of months, it is of the highest degree of importance that it should be worked free from all remains of butter-milk. Pure butter is an oil which will keep equally as well as lard or tallow. Butter-milk, on the contrary, contains casein, a nitrogeous compound, which decays very soon when in contact with air. Were it possible to remove every particle of the butter-milk, and all traces of impurities or foreign substances, no salt would be required, nor would it be necessary to pack butter away from the air.

SALTING.

In salting butter the salt itself should be of the purest kind, and it should be so thoroughly worked in, that every particle of the remain-

ing butter-milk be left in direct contact with a particle of salt. A very simple method of purifying salt for butter or cheese is, to add a pint of boiling water to four or five pounds of salt; stir them well now and then for an hour or more; drain off the water, and hang the undissolved salt in a bag to drain and dry. The drainings may be used for salting animals, or putting upon hay. In this process the water dissolves out the bitter, disagreeable portions of the salt—the chlorides of magnesium and calcium—which more soluble than pure salt. A little care of this kind is a thousand times remunerated in the sweeter taste and better quality, both of butter and cheese.

The amount of salt to be added to butter depends upon its freedom from casein—that is, upon the amount of working and washing it has received—and upon the length of time it is to be kept; and also upon the manner of packing and the climate or degree of heat to which it is to be subjected. If butter is thoroughly freed from casein and packed in vessels nearly air-tight, with the salt well worked in, and when not to be subjected to high temperature in warm climates, it will keep well with less than half an ounce of salt to the pound. Where none of these conditions are met, one and-a-half ounces, or, even more, are required.

Many of the best butter-makers recommend to add one-half of the salt, and let it stand 24 hours; then work over again and add the other half. This process removes more of the water, and, of consequence, more of the casein. To secure uniformity in adding the salt, spread the butter in a thin sheet, sprinkle a little salt all over the surface, roll it together, and repeat the process, till all is added.

PACKING.

For home use, stone ware vessels are undoubtedly the best. For transportation to distant markets, wooden vessels must be used.—These should always be made of perfectly seasoned timber, and be water-tight. There is so much danger of “flavor” from the wood, that we have recommended heating the inside of the butter-tubs nearly to a charring, and then soaking them in a strong brine for a few hours or days. The heating can be done by placing them over a small coal furnace, or by kindling a fire of shavings on the inside. No harm will be done if the entire inside is charred. The aromatic sap of the wood will, by

this means, be destroyed, and the tubs will be all the more durable. After burning, the inside should of course be scraped entirely clean. The importance of this recommendation will be appreciated when we state, that one-fourth to one-half of all the butter carried to market in this country is more or less changed in flavor by the packing-tubs. In putting down the butter, let it be thoroughly pressed together to free it from the confined air, and then let its surface be kept as much as possible from access of air. If the tubs or firkins can be headed up, so much the better.

We have kept butter in a tub unchanged for an entire year, by covering it with a strong brine, and laying a cloth over it.—*N. York Times.*

What are the best Substitutes for Guano.

In consequence of the very considerable increase lately made in the price of Peruvian guano, the above question is being very freely and frequently canvassed by British Farmers.

The opinion seems to be very generally entertained that one of the best substitutes for this unrivalled fertilizer, so far at least as turnips and some other root and green crops are concerned, is common ground bones, prepared in such a way as to hasten the solution of the phosphates therein contained. In order to judge of the comparative value of these fertilizing properties mainly to the phosphates and the ammonia which they contain. The best Peruvian Guano contains about 22 per cent. of phosphates, and 16 of ammonia. Ground bones contain about 60 per cent. of phosphates, (sheep bones 70, horse bones 67, ox bones 58 1-2, calf bones 54, swine bones 62, fish bones 55, according to Sprengel,) and 9 per cent. of ammonia, provided the bones were fresh and unbolled. So far then, as the per centage of phosphates and guano is concerned, there is no fertilizer in the market that can claim an equality with bones, and for crops which, like turnips, do not require a large amount of ammonia but do require large supplies of phosphates, bones are more than equal to guano.

The great objection to the use of bones is based on the ground that the phosphates contained in them are not in a soluble state, and

slowly dissolve, and that, consequently, they are not so speedy in their action as is often desirable. In one case this slow-solubility of bones may be accounted as an advantage, as it would be better that lands laid down to meadow or pasture for a term of years, should obtain the benefit of a dressing of bones or phosphates gradually, than all at once the first year. But for most purposes, it were better to have them more speedily available: and to effect this object, bones have been very extensively treated with sulphuric acid, to convert the slowly soluble into the speedily soluble phosphates. The inconveniences and frauds and disappointments incident to the use of super-phosphates, have turned the attention of agriculturists to other methods of rendering bones soluble, and it has been ascertained that the cheapest and most reliable mode of treating bones, so as to derive from them the fullest advantage, is to mix them, in the ground state, with half rotted manure; the acids resulting from the fermentation and putrefaction, combining to make the phosphates more readily soluble. Another and easier plan consists in placing the ground bones in a heap, saturating them with urine or fluid from tanks, and covering the whole up closely with sand, earth, clay, or muck. In a few weeks the mass becomes quite soft. A ton of bones dissolved in this way, is thought much cheaper at \$40 in England, than most of super-phosphates at \$30. A good authority has said that this is the cheapest way in which bones can be dissolved.

Syrups.

Although these preparations are so little used in England, there is no reason why they should not become a regular article in the house-keeper's store room; they are easy to prepare, and are very agreeable to the palate, also economical, as they supercede the use of ardent spirits and wine. On the Continent it is a common practice to drink simple syrup (which is called *eau sucrée* but which we term *capillaire*,) diluted with water to the taste of the drinker.

Capillaire is made thus:—Dissolve about two pounds of the best refined white sugar in one pint of water; boil the mixture for five or ten minutes, then strain it through lawn, or a hair sieve; when cold it is fit for use.

Syrup of Cloves.—Proceed in the same way as for making *capillaire*, but with the sugar

add thirty to forty cloves that have been broken or ground.

All the syrups of spices, as cinnamon, nutmeg, ginger, &c., can be made in the same way.

Syrups of Fruit.—These are prepared in a similar manner to *capillaire*, substituting the juices of the fruit in place of the water; in this way it is very easy to make syrup of oranges. Before the oranges are squeezed, to express their juice, each orange should be well rubbed or grated with the lump sugar—by so doing the fine flavor of the rind is preserved. All these syrups are drunk by diluting them with water. About a wine glassful of a syrup to a tumbler of water will be found to make a pleasant draught.

Syrup of Coffee.—Take about an ounce of the finest coffee, ground, and a pint of cold water; allow them to stand together for twelve hours or more, then strain, and add one pound and a half of sugar; boil for one or two minutes, not longer, and again strain.

Syrup of Tea.—One pint of water, two pounds of sugar, an ounce of black tea; boil together for five minutes or rather less, and then strain. A wine glassful to half a pint of cold water makes very good cold tea.

To Neutralize the Acid, or Sourness in Fruit Pies and Puddings.—As the fruit season now advances, it is well worthy of notice that a large quantity of the free acid which exists in rhubarb, gooseberries, currants, and other fruits, may be judiciously corrected by the use of a small quantity of carbonate of soda, without in the least affecting their flavor, so long as too much soda is not added. To an ordinary sized pie or pudding, as much soda may be added as piled up will cover a shilling, or even twice such a quantity, if the fruit is very sour. If this little hint is attended to, many a stomach-ache will be prevented, and a vast quantity of sugar saved; because when the acid is neutralized by the soda, it will not require so much sugar to render the sour sweet.

SEPTIMUS PIESSE.

MEASURING HAY.—The editor of the New Jersey Farmer gives his rule, for measuring hay. He formerly weighed his hay—but repeated trials taught him that this was unnecessary. Take a mow which has lain through the winter, and ascertain its amount in cubic feet, (multiplying its width by its depth, and that

product by its length,) and then divide by 700, and the quotient gives the number of tons.—The upper third takes 800 feet to the ton; the lower 600 feet, making the mean 700 feet. If the mow is only five or six feet deep, however, it takes an average of 800 feet to the ton.

From the New England Farmer.

Seed Potatoes.

A few words in relation to potato raising. I was somewhat amused, while reading your valuable paper on the subject of potato raising. I see the writer's opinion is, that planting seed ends would produce small potatoes, which in my opinion is a sad mistake. I have farmed it for twenty four years, and have in all cases planted seed ends. I began in this way for the reason that I was short for potatoes, and found for experience that it was altogether the best way. I would not have you think that I have not tried any other way, for I have for experiment planted them whole, and have cut them, and I have in no case had better potatoes than when I planted seed ends. I always get the largest potatoes; I do not say but I have had as many or more in number, by planting in a different way, but not so much by measure. I always put into each hill one seed, unless they are very small, and then I put two, but that is seldom; and I seldom have more than three stalks in a hill, and sometimes but one, and I find as many potatoes in such a hill as in any. In my opinion, it is a very great mistake that seed ends produce the most stalks; it never has been so in any case where I have planted ends.

I will give an instance which occurred when I first commenced farming; it may seem simple to the reader. I had a piece of land that I wanted to plant in potatoes; it being sward land, and more than I wanted for my own use, I told my father if he would help me plant it, he might have one-half of the piece for his own use; he accepting the offer, helped to plow it, and, and according to contract planted one half of it; by the way, he was to have his choice in the halves. He being one of the old fashioned farmers, who put into each hill two or three potatoes, oftener three than two, and called that a small amount of seed. I planted seed ends, as I always have done. The field being some ways from the house, I drew my

seed into the field, and tipped them up on the ground, and something which I do not now remember prevented me from planting them for two days or more. The seed ends became dry almost like a chip; my father says to me, "your seed ends will not come up, they are so dry they cannot grow." I told him I would risk it, and accordingly I planted them; they came up as soon as his, but not more than half the number of stalks in a hill. The old gentleman would say every now and then, that he would have the most potatoes, because there were more tops to his than mine; this being the first of my farming, I began to think he would have the best crop; but when we came to dig them, he turned his tune, he having two potatoes to my one in number, but in measure I had almost two to his one. I have always planted the same way, that is, I planted seed ends, not because I lacked for seed, but because I lacked for seed, but because I think it is the best way on the part of economy and profit. The practice of putting on fifteen or twenty bushels to the acre is altogether an error. It is a two-fold loss; in the first place, it is a waste of seed, which is worth something to give to cattle, and in the next place, there is a loss in your crops, as your potatoes are not as large, and not as saleable.

I do not wish to be understood that there is no other way of planting to get large potatoes. I think that to cut the potato lengthways, and put one piece in a hill, will produce about the same potatoes, but there is more waste of seed in this way. W. A.

North Hartland, Vt., Feb. 7, 1857.

TO PROTECT DRIED FRUITS.—If fruit is put into good linen or cotton bags, and tied up tightly immediately after drying, and baked a couple of times during the season, by putting the bags on a board in the oven moderately warm, keeping them in a dark closet in the meantime, the worms will not disturb them.—Another excellent way to protect them from worms, is to procure empty liquor barrels and pack them in, after drying in the fall, and cover them up tight, or put them in other barrels, and add a little whiskey or brandy as you fill them up.—*Country Gentleman.*

Women commiserate the brave, and men the beautiful.—*Æsop.*

Back Furrowing.

Editors of the Homestead:—Agreeable to the request of several of your correspondents, I give you for publication in your columns the scientific principles upon which back furrows can be laid on a level with the remaining furrows of the land.

These principles were imparted to me by Joseph Samuel, of New York, an Englishman, at the time in the employ of Messrs. Ruggles, Nourse, Mason & Co., of Boston, Massachusetts. By these gentlemen, I was informed that Mr. Samuel probably understood the scientific principles of plowing better than any other plowman in the United States.

These principles consist not in turning the first two furrows shallow, but in turning them deep on the land side (7 inches at least) and shallow at the point of the wing leaving just thickness enough at the point of the wing to operate as a hinge upon which the furrow is to turn.

It will readily be seen that the shape of the first two furrows must be but half the depth, say three and a half inches deep and as wide as the plow turns.

And now as to the operation of the principles, the first two furrows being triangular in shape, and the next two being thin and wide, will lap into the first, so as to be as high as the first, the next two or third furrow being of full depth, and turned into a shallow furrow, will be as high as the first, and then the rest of the furrows may be plowed full depth without further reference to the first. I suppose that the principles can be better applied to the lap furrow than to the flat yet, if any one will give them a fair trial on a flat furrow they will be seen that it can be done after sufficient experience.

In the foregoing I have given all the principles in my possession and any plowman can in a single hour, upon a smooth piece of land, have as much experience as I have had.

After the faucy plowmen of the State have put these principles into operation, I wish there might be an expression from those who expect to compete at our next annual State Fair as to whether they would wish the alteration, for I do not know of any State where the old method of going round a land, is now in practice, except it be the State of "Camden and Amboy," where a day laborer would be likely to lie down in the

furrow at the sight of such plowing as I saw last fall.—*Homestead.*

T. L. HART.

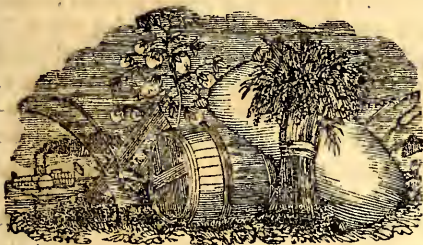
West Cornwall, May 11.

Hard Cement.

The following cement has been used with great success in covering terraces; lining basins, soldering stones, &c., and everywhere resists the filtration of water. It is so hard that it scratches iron. It is formed of ninety-three parts of well burnt brick, and seven parts of litharge, made plastic with linseed oil. The brick and litharge are pulverized; the latter must always be reduced to a very fine powder; they are mixed together, and enough of linseed oil added. It is then applied in the manner of plaster, the body that is to be covered being always previously wetted with a sponge. This precaution is indispensable, otherwise the oil would filter through the body, and prevent the mastic from acquiring the desired degree of hardness. When it is extended over a large surface, it sometimes happens to have flaws in it, which must be filled up with a fresh quantity of the cement. In three or four days it becomes firm.

TO MAKE TURTLE SUP WITHOUT TURTLE.

Take the head of a kid, lamb or calf, that has been carefully cleaned. If they are young, the skin should be taken off, but the hair removed by scalding in hot ley water. Put one of these into a pot of cold water early in the morning, and start it to boiling. Tie in a clean cloth a teaspoonful of allspice and ten cloves, and drop into the pot. Cut into small pieces one carrot and two medium sized turnips, and drop in. Keep the pot boiling continually, and as the water evaporates, fill up with boiling water. When the head is done so well that the bones part easily from the flesh, take it out into a tray, pick the bones carefully out, and chop the meat fine. Strain the liquid through a colander, and turn the chopped meat back into the liquid; now salt and pepper to taste, and thicken with flour that has been parched to a deep coffee color; stir it frequently, that it does not burn, and just before it is taken off, add one gill of good tomato, or any other catsup, and a half-pint of pure home-made wine, (such as every housekeeper should make.) Now serve up on the table, and if any of your sea shore readers can tell this from the finny turtle, I will give up that I have any knowledge of housekeeping.—*Car. Cotton Planter and Soil.*



THE CAROLINA CULTIVATOR.

RALEIGH, JUNE, 1857.

The Crops.

We are happy to be able to record the cheering promise of more abundant crops of corn than we had been led to anticipate. From various quarters the accounts we receive are highly favorable and encouraging. There is of course some uncertainty still, but the remaining part of the season must be very disastrous, to reduce the result below a good average standard. We rejoice in the prospect, not only for the sake of the buying public, but because the great agricultural interests of the country cannot be sustained by occasional and artificial stimulation. A healthy tone in the market is what the farmers mostly need.

CHEAP BUTTER-COOLER.—A writer in the Scientific American says: "Procure a large, new flower-pot of a sufficient size to cover the butter-plate, and also a saucer large enough for the flower-pot to rest in upside down; place a trivet or meat-stand (such as is sent to the oven when a joint is baked) in the saucer, and put on this trivet the plate of butter; now fill the saucer with water, and turn the flower-pot over the butter, so that its bottom edge will be below the water. The hole in the flower-pot must be fitted with a cork; the butter will then be in what we may call an air-tight chamber. Let the whole of the outside of the flower-pot be then thoroughly drenched with water, and place it in as cool a spot as you can. If this be done over night, the butter will be as 'firm as a rock' at breakfast time; or, if placed there in the morning, the butter will be quite hard for use at tea hour.

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The reason of this is, that when butter evaporates, it produces cold; the porous pot draws up the water, which in warm weather quickly evaporates from the sides, and thus cools it and as no warm air can now get at the butter, it becomes firm and cool in the hottest day.

Exchanges.

"DICKENS' HOUSEHOLD WORDS.—We are in the regular receipt of this interesting monthly, and can heartily recommend it to our readers. The materials are generally original, light, racy and animated, and the variety is admirably sustained.

GODEY'S LADIES' Book comes quite regularly, and is always elegant in execution as well as interesting in its contents. Feminine readers will always find it a treasure indeed.

PETERSON'S MAGAZINE is another of the same class, and caters in a cheaper form to the same delicate tastes.

"FRANK LESLIE'S Gazette of Fashion and the Beau Monde," is an elegant publication, devoted to the "dress circle." It enjoys a vast popularity, and eminently deserves it.

PUTNAM'S MAGAZINE is quite punctual, notwithstanding our opinion of its course, frequently expressed. We are not so sensitive to its errors, as to be blind to its merits, but we cannot regard it as a safe periodical for Southern circulation.

THE ECLECTIC is always full of the cream of current literature. It is highly instructive, often entertaining and always elevated in tone and style above the common standard.

HOME MADE BEER.—Take one gill of good hop-yeast, two teaspoonfuls of brown sugar, half a teaspoonful of soda. do. of acid, eight drops of the essence of sassafras, the same of wintergreen, and four of the essence of spruce; beat it well together, then pour on two quarts of cold water, and you will have a good, healthy, cheap drink, for sick or well folks. The way I make my yeast; boil a handful of hops in two quarts of water half an hour, strain off the water, and stir in the flour while hot, add one tablespoonful of brown sugar, and a tablespoonful of ginger, and when milk-warm, add a pint of good yeast.



Gorticultural.

The Strawberry.

Among all berries, by universal consent, the Strawberry is ranked first—being more delicious and wholesome than all others. The name is supposed to have originated from a common practice of laying straw between the plants to keep the fruit clean. However this may be, from whatever circumstance the name may have arisen, there are few that will not agree that,

“A dish of strawberries smothered in cream,”
is a delicacy not to be surpassed.

The Strawberry is supposed by some to be a native of temperate climates, but we are not sure that this is entirely correct. Three species have been found growing wild in the United States—one in Ohio, one in Virginia, and another common alike in the Southern, Middle and Northern States. In Great Britain, two species have been found indigenous to the soil; and in most countries, and in nearly every variety of climate, it is known and esteemed.

These wild berries, however, will not compare in any respect with those which have been improved by the process of hybridization. No plant which has a place in our gardens owe more to the care and skill of man than this. To instance, Hovey's Seedling,—which is admitted to be the finest in the country, whether the size of the berry, or the productiveness of the plant be considered—was produced entirely by this process; owing all its celebrity thus, to the fostering care of the Messrs. Hovey, of Boston. Mr. McEvoy also,

of Cincinnati, has by the same process, produced a number of fine plants, among which is McEvoy's Superior, which, after several years experiment, we are satisfied, deserves its name, being indeed superior. Another, called Princess Alice Maude, is equal, we think, to either of the above mentioned; and to those who wish to cultivate large berries of fine flavour, we particularly recommend these three to be mainly cultivated. In order to prolong the season, there is another Strawberry, which ripens some two weeks earlier than the above, called the Large Early Scarlet, which should be planted also, and while there are many other varieties, some good and many worthless these are all that any person need care to have. Amateurs, may select a few other varieties, as Black Prince, Myatt's British Queen, and Elton.

The plants are propagated from the runners, which are always taken to form new plantations. The Strawberry runner is very well known to all persons who have cultivated the plant; but to such as have not, we can only describe it, as a string shooting off from the plant, from six to sixteen inches, on the end of which a bunch of leaves is soon formed. This falls down upon the earth, and very soon becomes rooted in the soil. Sometimes from this, another string shoots out, and soon forms another sett of leaves and roots, and in very wet seasons, as many as three or four runners will thus be formed. Where this is the case, however, good cultivators take only that runner which is nearest to the plant, and reject all the others. These runners begin to develop themselves about the time that the plant begins to bloom, and is stout enough to bear transplantation by the 1st of August. If a good stand of plants is obtained at that time, they will produce a pretty fair crop of berries the next year.

In removing these runners, the first step is to cut the string which joints them to the parent plant, and then the runner is to be taken up with a trowel or small spade, and not dragged up with the hand. Very much depends on this. Pulling them with the hand is very likely to injure the roots most seriously, and it is all important that the roots be disturbed as little as possible. To this end, a good share of earth must be taken up with the plant, and this care will ensure a rich reward in an early crop from the plants transplanted.

The soil best adapted to the culture of the Strawberry, is deep rich loam. Deep and rich it must be, if large berries and plentiful crops are desired; and nothing less than this will satisfy any one who pretends to cultivate Strawberries. When the soil is not naturally deep and rich, trenching and manuring is the appropriate remedy, and must by no means be neglected. The manure must not be fresh and green as in that event it will bring a plentiful crop of weeds, and for the Strawberry, the desideratum is, to keep it clear of weeds. If the manure is old and well rotted, having gone through a fermentation, the seeds of weeds, for the most part will have been destroyed, and there will be little trouble.

The soil having been thus enriched where it was poor, it is then to be broken very deep with a spade, the clods well mashed and broken, and with the hoe and rake made as fine as practicable.

In laying off the ground for new plantations, some persons make beds three or four feet wide leaving narrow alleys between the beds,—but the best mode, in our opinion, is to lay it off in rows, leaving from two and a half to three feet spaces between the rows, and checking the land across about fifteen inches apart in the rows where the runners are to be planted. This will give sufficient room for the plants to grow, and also for persons to walk along to clean about the plants, and to gather the fruit.

The plants having been removed as directed, if it can be done, put them in the earth with the soil sticking to the roots; but where this cannot be done, as where they are brought from a distance, the runners are to be planted pretty much as cabbage plants are, using a trowel, or something of the kind, to open the holes into which the roots are to be put. The roots should be well put into the earth, but not deep enough to cover the bud, which ought to be just resting upon the top of the soil. The subsequent growth and success of the plant depends in no small measure upon the treatment which it receives at this period—a remark by the way, which is equally applicable to all transplanting. If the weather is dry when the runner is planted, then dip the roots in a tolerable thick mud before planting, and then water them until they grow off.

Here, then, we have the plantation made lar-

ger, according to the wishes and desires of the cultivator. The next and most important direction which we have to give is, to keep the plantation entirely clear of weeds and grasses. This is absolutely indispensable, and ought not be neglected. So important is it in our judgment, that we advise, without hesitation, that unless the plants are to be thus cared for, that no attempt be made to raise them at all. It will occur, then, to every one, that the ground selected for the Strawberry plantation, ought not to be foul, but such as has been carefully prepared with special reference to destroying the weeds, and then it must be kept clean, by the liberal and constant use of the hoe. This is the chief cultivation required for the Strawberry, and for the want of it, many persons fail to make a crop. Where the weeds are allowed to grow, the plants become spindling and weak, and will bear but few berries, if any at all.—This direction, be it remembered, is to be observed with respect to all plantations, whether new or old. At all times they must be kept clear of weeds.

About the first of November, the Strawberry plants are to be covered, not as some persons suppose, to protect them from the winter's cold, but for other purposes, which will presently more fully appear. To prepare for this, our custom has always been to haul, during the summer a quantity of "pine tags," and throw them into the stable, and then put it altogether in a pile, to produce fermentation, so as to have the manure well rotted. At the proper period, (that before mentioned,) we take an asparagus fork, or a three-pronged hoe, and stir the ground well just around the plants, making the soil fine and light,—and then put on the manure as before directed. This manure is placed on the plant, which is covered with it to the depth of one or two inches. The rains and snows of winter will dissolve the manure, and sink all its fertilizing qualities into the soil to feed and nourish the plant, and at the advent of the spring, there will be nothing on the surface but the "pine tags" which were mixed with the manure.—These are to be allowed to remain, to serve as a protection against sand when the berries ripen. Some persons are silly enough to remove this litter from about the plants, and, as a consequence, when the fruit is ripe, it falls on the earth, and every shower of rain covers it with dirt and sand, and renders it totally unfit for the

table, whereas, the litter would have preserved the fruit from contact with the soil, and kept it clean and nice. Wheat or oat straw might be used, were it not for the fact that it is almost sure to rot completely during the winter, and so fails to answer the purposes specified; and, besides, when it does begin to rot, it has a musty smell, which it imparts to the fruit, whereas the "pine tags" are tough and do not rot easily;—and being washed perfectly clean during winter, in no wise affect the fruit. Saw dust, spent, tan-bark, and other things are sometimes used, but nothing, we believe, answers the purpose so well as "pine tags."

At the same time that the soil about the plants is stirred, we are accustomed to manure the alley between, and also to spade them very deep, and use them to make some crop which will be entirely out of the way early in the spring. A crop of spinach or lettuce may thus be raised in the Strawberry plantation without the slightest detriment to the plants.

The plantation is now done for until the spring, and then commences again the process of removing the weeds. With this difference, however, that until the fruit season is over, the hoe cannot be used to remove the weeds, but they must be taken away by the hand. And for the obvious reason, that if the hoe be used, the soil will become mixed with the litter, and so the good to be obtained from that will be lost.

As soon as the plants begin to blossom, let water be given them freely, as was directed in our article in the May No. of the Southern Planter, at p. 318.

Persons who rear Strawberries for market, will find it to their interest to leave long stems to each berry, instead of plucking them short, as is commonly done. Two points are gained by this. The berries are less likely to get mashed and bruised, because the stems will serve as a protection; and secondly, they are prepared for the table with far less trouble.

About the time that the plants begin to bloom runners begin to develop themselves, and they should be removed as fast as they come throughout the year, as they operate upon the plant as suckers do on fruit trees,—take away sap and so impair its fruitfulness. They should, therefore, always be removed except where they are wanted to use in making new plantations.

Every Strawberry plantation requires to be renewed once in five years from the time that it first comes into bearing; and in order that a supply of fruit may be kept up, the new plantation should be made during the third year.—The fact that this renewal is requisite, is generally conceded, indeed we may say universally, but the why is not so well known, and in our judgment a vast deal of twaddle and nonsense has been written and printed in this connection. Volumes have been written about male and female plants, stamates, pistillates, and hermaphrodites, without casting much light on the subject, whereas the explanation of the difficulty is to be found in a simple fact, which is familiar to all, or with which all may acquaint themselves with very little trouble. When the runner is first planted, the roots by which it feeds are fibrous roots, clinging to a sort of neck, and are all of a light color; the second year this neck elongates, and changes its color, becoming quite dark, as do also its fibrous roots to which we have already alluded, and they cease to perform the functions which they performed originally, and a new set of roots are found just above the former, which also change as the others did, and so the third year another set of roots are formed, which pass through like stages; and the fourth year, these fibrous roots are found growing almost on the surface of the soil, where they cannot obtain that sustenance from the soil which the plant requires. Of course, then, the plant becomes partially or totally barren, and may as well be removed immediately. This simple statement, which any of our readers can verify, by examining the plants in their gardens, gives the real solution of the fact which everybody has observed, that the plants in a few years become barren. and it may serve to direct all in purchasing plants, and prevent the imposition sometimes attempted, of selling plants two or three years old as new plants. If any of the roots are dark, the purchaser may be sure the plant is a year old, if no more.

The simplest, cheapest and best method of making new Strawberry plantations, is that which we have adopted for many years, and which we recommend to all. It will be recollected that we directed, that between each row of Strawberry plants, an alley be left two and a half or three feet wide; and that we suggested its use for the rearing of some early crop. If this space is kept well manured and raked

year by year, it will be in capital condition for making the new plantation. In the third year take the runners from the old plants and set them out in the middle of these alleys, and by the next year, when the old plantation is becoming worthless, these will begin to bear, and then the old plantations may be spaded up, and there will be no interruption in the crop of Strawberries; and this process may be repeated from time to time indefinitely.

There is an infallible rule by which persons buying Strawberry plants may ascertain whether they are good or otherwise. Take the plant and examine the neck—by which, we mean that portion of the plant to which the roots are attached, and if it is found to be small and puny, the plant is worthless, and should be rejected; whereas, if it is found to be large and full, the plant is good and may be safely selected. If that neck be cut open with a knife, there will be found inside the embryo blossoms from which the future fruit is formed; and if they are large, healthy looking embryos, they will produce fine, large berries; whereas, on the other hand, if they are small and weak, the berries will be small and indifferent. The Strawberry is, in this respect, like hyacinths, and no person need be taken in who will have his eyes open.

Thus far our observations have been directed to those who cultivate only a few Strawberries for family use; and we would now address a word to those who cultivate them for market. Let a level piece of land, near a running stream or where water can be procured easily, be selected as the place for the extensive plantation. As the chief expense consists in keeping the land clean, the cultivator should take care to have his land well prepared before planting.—To effect this, sow a crop of rye in the fall of the year, which, in the spring of the ensuing year, say about the first of May, will be sufficiently grown to be turned under with the plow. Sow, immediately, a crop of peas, which are to be also turned under in the fall of that year, say about September. This will have the double effect of cleaning the land of all weeds, &c., and of enriching the soil sufficiently to produce a crop of Strawberries. The land being thus ready, let the directions for planting, heretofore given, be pursued.

In conclusion, we would urge all persons to cultivate this delicious crop, especially persons

living in the vicinage of our cities. It always commands good prices, and since the introduction of the custom of putting up fruits and vegetables in self-sealing cans, Strawberries may be profitably cultivated now by persons living in remote rural districts. Put up in these cans they command a ready sale, at remunerative prices, and many of our farmers might swell their annual revenues by giving more attention in this direction.

Transplanting Evergreens.

Eds. Country Gent—I have noticed of late several inquiries in regard to the best time for transplanting evergreens, and would say to all persons who can delay it, that May is a much better month than any other in the year; and that June is preferable to March or April. An evergreen should never be moved until the sap begins to ascend, and the buds are swelled and a little broken, if we desire the best time for transplanting. When they are moved early the wood often shrinks in the drying winds of early spring, and the winter clothing falls, and it is quite impossible ever to make a handsome tree of them again. The reason of it is that the sap does not flow as early in this class of trees as in most others. I seldom lose an evergreen transplanted the last of May or the first of June. R. LINDSLEY. *West Meriden Ct.*

Messrs. Editors—The oft-repeated inquiry in regard to the best time and mode of transplanting evergreens, which is often answered by giving directions to transplant in winter, with balls of frozen earth attached to their roots, leads me to infer that some less troublesome and expensive yet successful mode, is what is wanted by a large portion of your readers. When trees have to be moved ten or fifteen miles, as is often the case with the balsam and other evergreens recommended by you in the last Country Gentleman, the idea of moving trees, especially those of any considerable size, with large balls of earth, is sufficient to scare away all the pleasant thoughts associated with their beautiful appearance. If the old adage be true, that "what has been done can be done again," then balsams may be transplanted without balls of frozen earth. I have in my yard five balsam firs, taken from a swamp seven years ago, which grew in a drift soil at the mouth of a small creek emptying into

the swamp. The trees, from three to ten feet high, were taken up soon after the frost was out of the ground, and before they commenced growing. They were pulled up by three men, without digging about their roots. As the ground was very soft and moist, nearly all the roots, both large and small, were uninjured. Under a covering of wet hay, they were carried ten miles in a wagon, being out of the ground two days. Holes were prepared large enough to receive their roots in a natural position, and a quantity of muck, similar to the soil in which they grew, placed in the bottom of each hole designed for the largest trees. The result was that the large trees all lived, and some of them grew five or six inches the first summer, while three small trees from three to five feet high, died, which were planted without muck about their roots. I have used swamp muck in transplanting various kinds of trees, at different times, with good success.—*Country Gentleman*. E. S. H. COBB, *Hamlington Pa.*

The Fuschia Plant.

Mr. Shepard, the accomplished conservator of the Botanical Gardens at Liverpool, is the authority for the following anecdote respecting the introduction of that elegant flowery shrub the Fuschia, into the green houses of Europe. Old Mr. Lee, a well known Nurseryman and Florist, at Greenwich, near London, about fifty years ago, was one day showing his variegated treasures to a person who suddenly turned and said "Well, you have not in your whole collection so pretty a flower as one I saw to day in a window at Wapping!" "Indeed, and what was this Phoenix like?" "Why, the plant was beautiful, and the flowers hung down like tassels from the drooping branches, their color was the deepest crimson, and in the centre, a fold of rich purple."

Particular inquiries were made as to the exact whereabouts, and Mr. Lee posted off to the place, where he discovered the object of his pursuit, and immediately pronounced it a *new plant*. He saw and admired.

Entering the humble dwelling, he said "my good woman, this is a nice plant of yours, I should like to buy it."

"Ah, Sir! I couldn't sell it for no money; it was brought me from foreign parts by my hus-

band who has gone again, and I must keep it for his sake."

"But I must have it,"

"No, Sir, I can't spare it."

"Here," emptying his pockets, "here is gold, silver and copper," (his stock amounting to more than eight guineas.)

"Well a day, sure this is a pile o' money."

"Tis yours, and the plant is mine, my good woman. I'll give you one of the first young ones I rear to keep for your husband's sake. I will, indeed."

The bargain was struck, a coach called, in which old Mr. Lee and his apparently dearly purchased flower was deposited. On returning home, his first work was to strip off and destroy every blossom and bud; the plant was divided into small cuttings which were forced into bark beds and hot beds and again subdivided.—Every effort was employed to multiply the plant. Mr. Lee became the delighted possessor of 300 fuschias, all giving promise of fine blossom.—The two which first expanded were placed in his window. A lady came in, "why Mr. Lee, my dear Mr. Lee, where did you get this charming flower?"

"Tis a new thing, my lady, pretty, is it not?"

"Pretty? 'tis lovely! Its price?"

"A guinea, your ladyship"—and one of the two plants that evening stood in beauty on her ladyship's table in her boudoir.

"My dear Charlotte! where did you get that elegant flower?"

"Oh, 'tis a new thing. I saw it at old Mr. Lee's; pretty, is it not?"

"Pretty? 'tis beautiful; what did it cost?"

"Only a guinea and there was another left."

The visitor's horse trotted off to the suburb, and a third beauteous plant graced the spot from whence the first had been taken. The second guinea was paid and the fuschia adorned another drawing room of fashion. This scene was repeated as new calls were made, by the persons attracted by the beauty of the plant.—Two plants, graceful and bursting into flower, were constantly seen on the same spot. He gladdened the faithful sailor's wife with the promised flower and before the season closed nearly 300 guineas jingled in his purse, the produce of a single shrub from the window at Wapping, as a reward of old Mr. Lee's taste, skill and decision.

Manuring Fruit Trees.

The Dutch, who are admirable gardeners, had in the great exhibition an instrument called an "earth borer," for manuring fruit trees without digging the ground. A circle of holes is bored around the tree at two feet distance from the tree, and a foot from each other. Taking the tree at a foot diameter at the surface of the soil, the circle will be five feet in diameter and fifteen in circumference; and if the holes are three inches diameter and a foot apart—fifteen inches, there will be about twelve holes; more or less according to the diameter of the tree. They are eighteen inches deep (where there is enough depth of soil) and slanting towards the centre; are filled with liquid manure, diluted more or less in dry weather, and stronger as the weather is wetter. For the time of application, Dr. Lindley tells us in the *Gardener's Chronicle*, Feb. 21, 1852,—“For fruit the proper time for using liquid manure is when the fruit is beginning to swell, and has acquired, by means of its own surface, a power of suction capable of opposing that of the leaves. At that time liquid manure may be applied freely, and continued from time to time as long as the fruit is growing. But at the first sign of ripening, or even earlier, it should be wholly withheld. If liquid manure is applied to a plant when the flowers are growing, the vigor which it communicates to them must also be communicated to the leaves, but when leaves are growing unusually fast there is sometimes a danger that they may rob the branches of the sap required for the nutrition of the fruit; and, if that happens, the latter falls off. And we all know that, when ripening has once begun, even water spoils the quality of fruit, although it augments the size, as is sufficiently shown by the strawberries prepared for the London market by irrigation; great additional size is obtained, but it is at the expense of flavor, and any injury which mere water may produce will certainly not be diminished by water holding ammoniacal and saline substances in solution.” I am not aware that this information has made its way into our orchards, finding no allusion to it in any of our books on orchard management, nor at our agricultural meetings. The time is just coming for putting it to the test, and it remains with the fruit

growers to see what profit they can make of it. They need, in these times, all they can get, and this method has the recommendation of requiring little outlay, of any kind.—*Mark-Lane Express*.

How to Raise Onions.

I have seen several inquiries in the *New England Farmer* how to raise onions—and not to raise maggots and sullions—and have them bottom; now I will tell you how I manage. I sow them on the same ground year after year; I think it the best way. I never plow for onions, but spade the ground about three inches deep, and rake in the manure; I use manure that is two years old, at least, and very fine. I put on a very good coating yearly; I sow the seed in the old of the moon, and soak them twelve hours or more, before sowing, in strong brine; the maggot that eats the onion is in the seed, and the brine kills it. I cover the seed about one inch deep, and then I press the earth as hard as I can, by laying a board on the row and jumping on it. The earth must be rolled to get good onions. As soon as they begin to peep out of the ground, I sow on a good coating of ashes, and repeat it as often as once in eight or ten days, until they begin to bottom, when I weed them. I don't break the earth much until they begin to bottom; then I hoe the earth from the onions, and as they bottom, they lay almost on the surface; three inches is near enough for them to stand. In this way I never failed to raise good onions.

C. BROWN.

Goshen, Hampshire Co., Mass.

GRAPE VINES.—N. T. T. in the *New England Farmer*, says: I have learned a short lesson from experience. If I leave my grape vines covered up late in the spring they are liable to be killed by the wet. A warm day or two seems to have the effect to disorganize the internal structure of the vine. I now take them up as soon as the snow is fairly off the ground. No subsequent cold can injure them.

SHADE.—How delightful it is in these warm days to have a beautiful shade to ruminare in. Then we would advise all to transplant such trees as will make a beautiful shade about their premises next fall.

Miscellaneous.

Southern Corn.

It is but a few years since farmers commenced the planting of corn for fodder for cows. Now it is rare to find a farm in this neighborhood where more or less of this important forage is not cultivated. For cows in milk it is highly advantageous to add a considerable quantity of green succulent food to their pasture diet, during the hot, dry month of August.

Some farmers plant fodder corn near to the pasture, and cut and throw over the fence to the animals several times in a day. Some plant at a distance from the field, and cut and haul to the pasture or barn. In the modern barns, where the cattle eat from one side of the floor way, it is very little work to drive through the barn and distribute the load. We think it better where there are proper conveniences, to feed the corn to the cows in the barn. All then have a fair chance. There is no hooking or trampling the corn. It will be found that it is alike desirable that animals, as well as their intelligent owners, should take their food in a quiet way.

When it is considered how large a proportion of fodder corn is wanted, and what a number of tons to the acre is a good crop, economy would seem to direct that it be planted quite near to the barn. Perhaps no other crop should take precedence of it in convenient proximity, as it probably is the heaviest of any cultivated.

It is not the best policy to plant this corn on poor soil. The cost of seed, and labor, and perhaps manure, may be the same for two pieces of corn, and four times as much be cut from one as the other, because one was rich, strong soil, and the other barren and unproductive.

It is very important that this corn be planted at suitable intervals, from the middle of May to the first of July, to afford only enough for the stock that it may be eaten while it is fresh and tender. If the whole supply should be planted all at one time, much of it will become too old to be relished by the cattle; the strength of the plant will be absorbed into tough stalks, which almost defy mastication, and become a complete waste.

The manure should be applied very liberally. By this means the crop will be heavy and pala-

table. Sowing in drills is commonly practiced, but broadcast on land that is quite free from weeds is usually successful.

For cutting up the corn, the bush scythe, as now so well made, is the best tool. It does the work better, perhaps, than those would believe who have tried other contrivances.

The Southern white flat or yellow corn is better than our Northern, as it grows larger. Some persons sow sweet corn, and say the cattle prefer it, thinking it sweeter and more nutritious. We have never tried it, and cannot say whether it is so or not.

LIQUID MANURE.—Few of us are so situated that we can with convenience make use of liquid manure in the field on a large scale, yet the use of it in gardens is most valuable, and when once tried will never be abandoned. The most convenient way to apply it is by the watering pot, either with or without the rose. In any dishing barnyard where manure lies, there may usually be enough liquid manure obtained, by sinking a half barrel in a convenient spot for it to run into, and from which it can be dipped; but this in a dry season is unserviceable; hence a hogshead sunk and covered, above which the manure can be piled, and which would take the wash of the yard, and which being furnished with a pump can be easily emptied of its contents, or the liquor pumped up to flow over the heap, is better. The fresh water may be emptied into the vat or hogshead in a dry time, and by causing it thus to flow once or twice through the well laid and compact heap above it, not only will one be provided with a most convenient and powerful manure, but if in this way, the manure heap is kept moist, its decomposition will progress rapidly, and scarcely a particle of value will be lost. Barnyards in which are manure heaps, where it is possible, should all be provided with large vats to prevent the possibility of any wash from the yard, and if these are covered and made to receive all sorts of refuse matter, they will be found a very important addition to the manure making and saving apparatus of the farm. A barrel sunk in a convenient spot near where it will be used, will be found very good to make guano water—which should be applied very dilute—the more dilute the better, in general, though occasionally a crop needs an application that will be equal to from one pound

to one and a half pounds to the square rod.—This may be applied to any garden vegetables with profit, and the results we will warrant will be satisfactory, if too much guano is not used.

Recipes.

A correspondent of the Country Gentleman, writing from Maryland, gives the following recipes which certainly have the appearance of being correct and useful:—

Curry Powders.—Curcuma, one-half pound, Powdered Ginger, one ounce, Black Pepper, two ounces, Cummen Seeds, four ounces, Cardamon Seeds, four drachms, Powdered Mace, four drachms, Cayenne Pepper, one ounce.—Mix all together in a very fine powder.

Extract of Celery.—Celery Seeds, one-half ounce, Brandy, four ounces. Digest for two weeks and filter.

Extract of Rennet.—Fresh Rennet, twelve ounces, Fine Salt, two ounces, Proof Spirit, two ounces, White Wine, one quart. Digest for twenty-four hours and strain. A quart of milk, requires two or three teaspoonfuls.

Burning Fluid.—Alcohol, three gallons, Camphine, one gallon, Gum Camphor, one ounce. Dissolve the camphor in the alcohol and then mix.

Water Proof for Boots.—Rosin, four drachms, Lard, one ounce. Mix and melt them together over a slow fire.

Black Varnish for Leather.—Gum Shellac, one ounce, Gum Juniper, one ounce, Lamp Black, one ounce, Rosin, one ounce, Venice Turpentine, one-half ounce, Spirits of Wine, one pound. Mix it and let it stand in a warm place for a few days.

A Good Yeast.

One of the best articles of its kind that has ever fallen under our observation was recently handed us for examination, by a lady whose reputation as a domestic economist is deservedly high wherever she is known. The recipe for its manufacture—kindly furnished us by the same fair hand—is as follows:—

“Take half a dozen common sized potatoes, boil, peel, and strain them through a common sieve—first adding half a pint of warm water, then sufficient wheat flour, sifted, to make the

whole into a thin batter; with this mix two tablespoonfuls of ordinary bakers' yeast. If prepared at night it will be fit for use in the morning.” It is said that any quantity may be used for cakes, bread, &c., as it does not communicate the usual bitter taste, which attends the excessive use of other articles of yeast.

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5—tt.

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AT THE ANNUAL MEETING OF THE North Carolina Mutual Insurance Company, held on the 9th inst. the following persons were elected Directors and Officers for the ensuing year:

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H. D. Turner, *Vice President.*
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LIVER COMP'T, DYSPESIA, JAUNDICE,

Chronic or Nervous Debility, Disease of the Kidneys, and all diseases arising from a Disordered Liver or Stomach.

Such

as Constipation,

Inward Piles,

Fulness or Blood to the

Head, Acidity of the stomach,

Nausea, Heartburn, Disgust for food,

Fulness or Weight in the Stomach, Sour Eructations,

Sinking or Fluttering at the pit of the stomach,

Swimming of the Head, Hurried and difficult Breathing,

Fluttering at the Heart, Choking or suffocating sensations when in a lying position.

Dimness of vision, Dots or webs before the sight,

Fever and Dull Pain in the Head,

Deficiency of Perspiration,

Yellowness of the skin and eyes,

Pain in the Side, Back, Chest,

Limbs, &c., Sudden flushes of Heat,

Burning in the Flesh, Constant

imaginings of evil,

and great depression of

Spirits,

The proprietor in calling the attention of the public to this preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the diseases for which it is recommended.

It is no new untried article but one that has stood the test of a ten years' trial before the American people, and its reputation and sale is unrivaled by any similar preparations extant. The testimony in its favor given by the most prominent and well known Physicians and individuals in all parts of the country is immense, and a careful perusal of the Almanac published annually by the proprietor, and to be had gratis of any of its agents, cannot but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained.

Principal Office and Manufactory No. 96 Arch St. Philadelphia, Pa.

TESTIMONY FROM N. CAROLINA.

ASTONISHING EFFECTS FROM THE GERMAN BITTERS.

Certificate of Dr. W. SMITH, of Pine Hill, Richmond Co., N. C., March 4, 1854.

Dr. C. M. Jackson, Philadelphia.—Dear Sir,—I have been a subject of Dyspepsia in its worst form,

for the last five years. Such was my condition for 12 months that the physicians and all who saw me said I must die. While in this condition, I was carried to the watering places in Virginia, Tennessee and North Carolina, but was not benefited by any water to which I was taken. While on my way home, I stopped a week at Rutherfordton, a small village in N. Carolina to try the effect of some Chalybeate water in that place. About the last of the week, I went into a drug store to get some medicine for my child and myself. There were several of the village physicians in the store, and one of them seemed to take some interest in my case, and after asking me some questions, said he had been a dyspeptic, and had been greatly benefited by the use of "Dr. Hoofland's German Bitters," prepared by you, and he insisted that I should try the Bitters. He also called the next day at my room, and insisted so much that I would try them, that I asked him to get me one bottle. He did it, and I commenced taking it as directed, and I do say I was more benefited by it than all the water and medicine I had ever taken.

After reaching home, one of my neighbors came to me for a prescription and medicine, (he a dyspeptic,) and I gave him nearly all the Bitters I had left; which effected much good in his case. He has often called on me for more of the same kind of medicine, saying he was more benefited by it than any other he had taken, but I have not been able to get any more for him or myself since; will you, therefore, please ship me a dozen or more as soon as possible.

Respectfully yours,

W. SMITH, M. D.

GREAT CURE OF PILES.

Certificate of W. J. ATWOOD, Huntsville, Yaden Co., N. C., Nov. 1, 1853.

Dr. C. M. Jackson.—Dear Sir,—Allow me to express to you my sincere thanks for your discovery of a medicine, which, to say the least of it, has effected a cure that all other medicines that I have taken have entirely failed to do. "Hoofland's German Bitters," have cured me of the most stubborn and aggravated case of the PILES that, perhaps, ever fell to the lot of man. My case is not a stranger to this community, as I am well known in this and the surrounding counties, and can truly say that my recovery has astonished all my friends and relations, as I had tried everything recommended, and nothing did me any good until I was prevailed upon to try the bitters. You are at liberty to make any use of this communication, for the benefit of the afflicted, as you may think proper.

Truly yours,

Wm. T. ATWOOD.

These Bitters are entirely vegetable, possessing great advantage over every mineral preparation, as they never prostrate, but always strengthen the system.

Price 75c. per bottle. Sold by Druggists and Storekeepers in every town and village in the United States and Canada, and by

WILLIAMS & HAYWOOD,

November 1856.

Raleigh.

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WARRENTON, N. C.

THE 30th session of this school will commence on the 3d of January next, prepared to give thorough instruction in all the branches of female education. Pupils received at any time. All charges from time of entrance.

Terms per Session:

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| Board, washing, lights and fuel in rooms, | \$60 00 |
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| Oil Painting, | 15 00 |
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| December, 1855. | |

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THIS superior hose, manufactured from the finest of **HEMP**, is adapted and especially recommended for the use of Fire Engines, Mills, Manufactories, Ships, Steamboats, Railroads, Hotels, Gardon uses, &c. Its advantages over other Hose are its extreme lightness and cheapness. It will stand as much pressure as Leather Hose, and has proved to be as durable; and all the care it needs after use is to thoroughly dry it in the open air.

For sale, and orders received in sizes from 1 to 7 inches in diameter, in lengths from 100 to 200 feet, by

CHARLES LENZMANN,

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Certificates of its superior qualities from the Washington and Brooklyn U. S. Navy Yards; from Alfred Carson, Esq., Chief Engineer of the New York Fire Department; James Smith, Esq., New York, and L. Button, Esq., Waterford, Fire Engine Builders, and from some of the most prominent mills and manufactories at Lowell, &c., can be examined at the office of the advertiser.

feb 18—6m

LYON'S KATHAIRON

Has now become the standard preparation for the **HAIR**. Its immense sale, nearly

 **1,000,000** 

BOTTLES.

Per year, attests its excellence and great superiority over all other articles of the kind. The ladies universally pronounce the **KATHAIRON**

To be, by far, the finest and most agreeable article they ever used. It **RESTORES** the Hair after it has fallen out; **INVIGORATES** and **BEAUTIFIES** it, giving to it a rich glossy appearance, and imparts a *delightful perfume*. Sold by all dealers throughout the United States, Canada, Mexico, Cuba and South America, for

25 Cents per Bottle.

HEATH, WYNKOOP & CO., PROPRIETORS,
63 LIBERTY STREET, NEW YORK.

Manufacturers, also, of Perfumery of all kinds, and in great variety. 6m.

SANDS' SARSAPARILLA,

IN QUART BOTTLES,

FOR PURIFYING THE BLOOD,

AND FOR THE CURE OF

Scrofula, Rheumatism, Stubborn Ulcers, Dyspepsia, Salt Rheum, Fever Sores, Erysipelas, Pimples, Broils, Mercurial

Diseases, Cutaneous Eruptions,

Liver Complaint, Bronchitis,

Consumption, Female

Complaints,

Loss of Appetite, General Debility, &c.

TO RELIEVE SUFFERING has been the object of the humane and philanthropic of all ages.—Before the practice of medicine became a science, the sick were publicly exposed in the open air, and every passer-by named the remedy he considered most suitable for the complaint. We possess at the present day, through the agency of the press, a more reliable mode of conveying information to our suffering fellow creatures. Those afflicted with *Scrofula, Cutaneous or Eruptive Diseases*, will find in the columns of almost every newspaper and periodical published certificates and testimonials from those who have

been speedily cured of these dreadful complaints by the purifying and powerfully regenerative qualities of *Sands' Sarsaparilla*.

ASTONISHING CURE.

PATERSON, N. Y.

Messrs. A. B. & D. Sands: Gentlemen:—Having witnessed the most beneficial effects from the use of your **SARSAPARILLA**, it gives me pleasure to send you the following statement in regard to my son. In the Spring, he took a severe cold, and after eight weeks of severe suffering the disease settled in his left leg and foot, which swelled to the utmost. The swelling was lanced by his physician, and discharged most profusely. After that, no less than eleven Ulcers formed on the leg and foot at one time. We had five different physicians, but none relieved him much; and the last winter found him so emaciated and low that he was unable to leave his bed, suffering the most excruciating pain. During this time the bone had become so much affected, that piece after piece came out, of which he has now more than twenty-five preserved in a bottle, varying from one half to one and a half inches in length. We had given up all hopes of his recovery, but at this time we were induced to try your **SARSAPARILLA**, and with its use his health and appetite began immediately to improve, and so rapid was the change that less than a dozen bottles effected a perfect cure.

With gratitude, I remain truly yours,

DARIUS BALLARD.

We, the undersigned, neighbors of Mr. Ballard, cheerfully subscribe to the facts of the above statement.

H. & R. S. HYATT,

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Prepared and sold, wholesale and retail, by A. B. & D. SANDS, Druggists and Chemists, 100 Fulton St. corner of William, New York.

Sold also by Druggists generally.

Price \$1 per bottle; six bottles for \$5.

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AYER'S PILLS

FOR ALL THE PURPOSES OF A
FAMILY PHYSIC.

There has long existed a public demand for an effective purgative Pill which could be relied on as sure and perfectly safe in its operation. This has been prepared to meet that demand, and an extensive trial of its virtues has conclusively shown with what success it accomplishes the purposes designed. It is easy to make a physical *Pill*, but not so easy to make the best of all *Pills*—one which should have none of the objections, but all the advantages of every other. This has been attempted here, and with what success we would respectfully submit to the public decision. It has been unfortunate for the patient hitherto that almost every purgative medicine is acrimonious and irritating to the bowels. This is not. Many of them produce so much griping pain and revulsion in the system as to more than counterbalance the good to be derived from them. These *Pills* produce no irritation or pain, unless it arises from previous existing obstruction or derangement in the bowels. Being purely vegetable, no harm can arise from their use in any quantity; but it is better that any medicine should be taken judiciously. Minute directions for their use in the several diseases to which they are applicable are given on the box. Among the complaints which have been speedily cured by them we may mention *Liver Complaint*, in its various forms of *Jaundice, Indigestion, Langor and Loss of Appetite, Lisslessness, Irritability, Billious Headache, Billous Fever, Fever and Ague, Pain in the side and Loins, for in truth, all*

these are but the consequence of diseased action of the liver. As an aperient, they afford prompt and sure relief in Costiveness, Piles, Colic, Dysentery, Humors, Scrofula and Scurvey, Colds, with soreness of the body, Ulcers and impurity of the blood; in short any and every case where a purgative is required.

They have also produced some singularly successful cures in Rheumatism, Gout, Dropsey, Gravel, Erysipelas, Palpitation of the Heart, Pains in the Back, Stomach and Side. They should be freely taken in the Spring of the year to purify the blood and prepare the system for the change of seasons. An occasional dose stimulates the stomach into healthy action, and restores the appetite and vigor. They purify the blood and by their stimulant action on the circulatory system, renovate the strength of the body, and restore the wasted or diseased energies of the whole organism. Hence an occasional dose is advantageous even though no serious derangement exists; but unnecessary dosing should never be carried too far, as every purgative medicine reduces the strength, when taken to excess. The thousand cases in which a physic is required cannot be enumerated here, but they suggest themselves to the reason of every body; and it is confidently believed this pill will answer a better purpose than any thing which has hitherto been available to mankind. When their virtues are once known the public will no longer doubt what remedy to employ when in need of a cathartic medicine.

Being sugar wrapped they are pleasant to take, and being purely vegetable, no harm can arise from their use in any quantity.

For minute directions, see the wrapper on the box.

PREPARED BY

DR. JAMES C. AYER,

Practical and Analytical Chemist, Lowell, Mass.—

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FOR THE RAPID CURE OF

COUGHS, COLDS, HOARSENESS,
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This remedy has won for itself such notoriety for its cures of every variety of Pulmonary disease, that it is entirely unnecessary to recount the evidences of its virtues in any community where it has been employed. So wide is the field of its usefulness, and so numerous the cases of its cures, that almost every section of the country abounds in persons publicly known, who have been restored from airming and even desperate diseases of the lungs by its use. When once tried its superiority over every other medicine of its kind is too apparent to escape observation, and where its virtues are known, the public no longer hesitate what antidote to employ for the distressing and dangerous affections of the pulmonary organs which are incident to our climate. And not only in formidable attacks upon the lungs, but for the milder varieties of Colds, Coughs, Hoarseness &c., and for children it is the pleasantest and safest medicine that can be obtained.

As it has long been in constant use throughout this section, we need not do more than assure the people its quality is kept up to the best that it ever has been and that the genuine article is sold by—

P. F. Pescud and Williams & Haywood, Raleigh,
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GREEN SAND MARL OF NEW-JERSEY.
THE NEW-JERSEY FERTILIZER COMPANY
It is now prepared to receive orders for this important Manure. For all lands upon which ashes are beneficial, the Marl is more than a substitute. Professor Cook, in his Annual Report to the Legislature of New Jersey, says:

"The value of these Marls is best seen in the rich and highly cultivated district which has been improved (*almost made*) by their use. But it may be interesting to examine the causes of their great value in agriculture, and to compare them with other fertilizers. For example: The potash alone may be taken, at an average as five per cent of the whole weight of the Marl; a bushel, when dry, weighs eighty pounds; and in the proportion mentioned, would contain four pounds of potash. This is nearly as much as there is in a bushel of *unleached wood ashes*."

And again: "It is probable that the great value of the Marl is to be found in the fact that it contains nearly all the substances necessary to make up the ash of our common cultivated plants."

Price, delivered on board vessels at the wharves of the Company at Portland Heights, Raritan Bay, New-Jersey, *Seven Cents per Bushel*.

For further particulars, see Circular, sent *free of postage*. Orders for other fertilizers will receive prompt attention. Address either of the undersigned.

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9—1y.

N. B.—Those wishing Marl for Spring use should order it immediately, to secure its early shipment. Orders will be filled in rotation.

NORTH CAROLINA MUTUAL LIFE INSURANCE COMPANY, Raleigh, N. C. This Company insures the lives of individuals for one year, a term of years, or for life, on the **MUTUAL PRINCIPLE**, the assured for life participating in all the profits of the Company. For policies granted for the whole term of life, when the premium therefor amounts to \$30, a note may be given for one half the amount of the premium bearing interest at 6 per cent. without guaranty.

The prompt manner in which all losses have been paid by this Company, together with low rates of premium, present great inducements to such as are disposed to insure.

SLAVES are insured for a term of from one to five years, for two-thirds their value.

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AGENT FOR THE SALE OF THE BEST BOSTON AND NEW YORK PIANOS AND MELODEONS.

THE LARGEST ASSORTMENT OF MUSIC MERCHANDISE IN THE UNITED STATES. Pianos from five different Manufacturers, of every variety of style—from those in plain rosewood cases, for \$200, to those of the most elegant finish, for \$1000. No House in the Union can come in competition for the number, variety, and celebrity of its instruments, nor the *extremely low prices* at which they are sold.

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with or without iron frames, have, in their new scale and improved action, a power and compass of tone equalling the grand, with the beauty and durability of the square piano. The Press and first music masters have justly pronounced them equal if not superior to any other make. *They are guaranteed to stand the action of every climate.*

HORACE WATERS' MELODEONS (tuned the equal temperament,) superior in each desirable quality—sole agent for the sale of S. D. & H. W. Smith's celebrated Melodeons—can also furnish Melodeons of all other makers. Prices from \$45 to \$125; for two sets of reeds, \$150; two banks of keys, \$200; Organ-pedal bass melodeons, \$275 and \$300.

MUSIC—One of the largest and best catalogues of Music now published: sold at greatly reduced prices. Music sent to wherever ordered, post paid. Personal attention paid to all orders received by Mail. Second hand Pianos taken in exchange for new. Catalogues sent by mail. Great inducements offered to agents to sell the above. A liberal discount to dealers, teachers, seminaries and clergymen.

Each Instrument guaranteed to give satisfaction, or purchase money refunded. **SECOND HAND PIANOS AT GREAT BARGAINS** constantly in store; prices from \$30 to \$140.

TESTIMONIALS FROM PROFESSORS, AND OPINIONS OF THE PRESS.

Says "The Christian Intelligencer" "The Horace Waters Pianos, for elegance of construction, superior depth and sweetness of tone, were pronounced by competent judges at the Crystal Palace to be in all respects masterpieces of Mechanical skill. Having inspected a large number of the Horace Waters' Pianos, we can speak of their merits, from personal knowledge as being of the very best quality."

Nothing at the State Fair displayed greater excellence in any department than the Piano-Forte manufactured by Horace Waters, of this city.—*Churchman.*

The following is taken from the "Christian Inquirer": "The finest among the many pianos at the Crystal Palace are those placed there by Horace Waters, whose instruments are always popular."

The following we take from the "Christian Advocate" Memphis Tenn.: "The Horace Waters' Pianos are built of the best and most thoroughly seasoned material. From all we can learn of this establishment—said to be the largest in the United States—we have no doubt that buyers can do as well, perhaps better, at this time than any other house in the Union."

"Mr. Waters has been long established and is favorably known. We speak from experience, when we assure our readers that his prices are below those usually charged for articles in his line."—*Jacksonian N. J.*

"Your instruments are a sensible improvement upon American Pianos, and on honor to the skillful manufacturer. There is no doubt but they will be appreciated by the public and all admirers of true merit."—*Oscar Constant.*

"I take great pleasure in pronouncing them instruments of a superior quality both in tone and touch."—*August Gockle.*

For power of tone, depth of bass, and brilliancy of treble, together with accuracy of touch, they are equal to any make I am acquainted with, and I cordially recommend them to those wishing to purchase.—*F. C. Taylor.*

"Our friends will find at Mr. Waters' store the very best assortment of music and of pianos to be found in the United States, and we urge our southern and western friends to give him a call whenever they go to New York."—*Graham's Magazine.*

"We consider them worthy of special attention, from the resonant and exceedingly musical tone which Mr. Waters has succeeded in attaining."—*N. Y. Musical World and Times.*

There is one which, for beauty of finish and richness and brilliancy of tone, equals, if it does not excel, anything of the kind we have ever seen. It is from the establishment of Horace Waters. Being constructed of the best and most thoroughly seasoned material, and upon improved principles, it is capable of resisting the action of the climate, and of standing a long time in tune.—*Savannah Georgian, Savannah, Ga.*

Says the "Evening Mirror," "They (the Horace Waters' Pianos) are very superior instruments and the maker may confidently challenge comparison with any other manufacturer in the country, as regards their outward elegance, and quality of tone and power."

COOKE'S NEW MAP OF NORTH CAROLINA, NOW READY FOR DELIVERY.

THIS Large and Beautiful MAP of North Carolina is now ready for delivery. It is one of the best engraved maps that has ever been published of any State in the Union, and is sold at the low price of Eight Dollars.

No Maps will be sold except by subscription. Agents will be found in most of the counties of the State, or persons desiring a copy of the Map can send their names directly to "Wm. D. Cooke, Raleigh, N. C."

AGENTS WANTED.

A number of counties in the State are yet unengaged. Persons wishing to canvass for the Map will be furnished with the terms, &c., upon application to the undersigned.

Agents are also wanted for South Carolina and Virginia. The Map includes Virginia as far north as Richmond, and South Carolina as far south as the junction of the Congaree and Wateree rivers.

TO EDITORS.

Editors in this State, who, having advertised the Map for six months, are entitled to a copy will please communicate the fact to the undersigned, that their copies may be forwarded by first opportunity

W. D. COOKE,

Raleigh, N. C.

Report of Professors Emmons and Mitchell, to the North Carolina State Ag. Soc., on COOKE'S NEW MAP OF NORTH CAROLINA.

I have had frequent opportunities of testing the correctness of Mr. Cooke's new Map of North Carolina, and parts of the adjoining States. This Map is worthy of special notice: 1st, from the fact that it embraces those parts of Virginia, South Carolina and Tennessee which are of immediate interest to the citizens of this State. 2d, that the eastern part of the State is compiled from data obtained through the determinations of the Coast Survey. 3d, it contains an entirely new feature in its profile extending along the line of the Railroad survey from Goldsboro' to Asheville, which exhibits the heights of many interesting points, as well through the central and western parts of the State lying east of the mountains as amongst the Mountains themselves.

In addition to the foregoing it may be justly said that Mr. Cooke has taken unwearied pains to correct the geography of the different counties, and to insert the prevalent names of places, those for instance which have come into use since new lines of travel have been established. It is in fact a New Map, and the only map which can be relied upon for accuracy in its details. It moreover merits commendation for the artistical skill displayed in its execution, its typography being beautiful and distinct.

EBENEZER EMMONS, State Geologist.

In the encomium passed by Prof. Emmons, upon Mr. Cooke's new Map, I fully concur. The particulars mentioned by him are of first rate importance and interest. Most of the maps of the State, heretofore published, have furnished few, if any, indications of the position of any point within our own limits, with regard to the States, north, south, or west of us. This evil has now a remedy. In noticing the map, the very efficient and important aid, in its construction, so fully afforded by Prof. A. D. Bache, Superintendent of the United States Coast Survey, and by Col. Gwynn, having the management of the Survey of a railroad, carried over the Blue Ridge into the valley of the French Broad, should not be passed in silence. Only the portion of the map representing the eastern part of the State has been submitted to my inspection, but to this I presume, the rest will be made to correspond.

E. MITCHELL.

University of N. C., October 21, 1856.

JOHN N. GORDON,
Grocer and Commission Merchant and Dealer
in Metals,

14th Street, near the Exchange Hotel,

RICHMOND, VA.

May, 1856.

2.—4

WANTED, by a young lady residing at the North, a situation as Teacher, at the South, in either a family or public school. She is qualified to teach the common and higher English branches, Music, and Drawing. Credentials given if required. If in a family, she would prefer one of religious principles. Address the Editor of the "Carolina Cultivator." feb. 18—tf.



THE CAROLINA CULTIVATOR.

Dedicated to Agriculture, Horticulture, and the Mechanic Arts

WILLIAM D. COOKE, Editor. and Publisher.

VOL. 3.

RALEIGH, N. C., JULY, 1857.

NO. 5

PUBLISHED ON THE FIRST OF EACH MONTH.

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Miscellaneous.

Premium Essay on the Farm Horse.

BY THEODORE BROWN, OF JEFFERSON CO., KY.

The following Essay was awarded a premium of \$40, offered by the Editors of the Louisville Journal, for the best upon the subject. The award was made by judges appointed by the Directors of the South-western Agricultural and Mechanical Association. It will repay a careful perusal. In no section of the Union are the principles of breeding better understood than in Kentucky, and in accordance with our views, of the absolute necessity to meet the

requirements of the country in this department of Farm Economy, it is our determination to give special attention in our pages to the subject.

To the Southwestern Agricultural and Mechanical Association.

Heretofore it has been too much thought that the broken down, refuse stock of the turf, the saddle, or the dray would still answer for the farm. It is now, however, believed that, though individuals of these several classes may be suited for farm purposes, neither class as a whole, is competent to the efficient performance of all the duties of the farm horse.—Those duties are of a most diversified character—every change in the seasons, every variation in the roads, or in the surface constitution and condition of the soil calling into play different powers of the farm horse. Thus the wagon, with a light load, on a firm, well-graded road, requires in the horse wind and action and spirit combined with gentleness; while on muddy or hilly roads it would call for weight of carcass, tough, large muscles, true, steady pulling, and powers of endurance.—Plowing, too, is no less varied in its demands, its heavy, constant, long-protracted work taxing the stronger powers, and the cultivation of the crops, particularly in July, imperatively demanding wind and strength both, and sufficient evenness of temper not to throw away either. And in all sorts of farm work there is

need of health and thrift in the animal to perform it well and with justice to itself.

What race in America "is sufficient for these things?" The Conestoga is not, for wind and action are woefully deficient in this breed. The race horse, on the other hand, possesses sufficient wind and action, but generally lacks size and good temper, being restive, vicious, and unsafe till almost worn out with age and hard service. The Canadian and Morgan horses both combine excellent qualities, but too often lack size. A cross upon the Conestoga and race horse with the Morgan would doubtless produce a good race, but similar crosses on better draught horses than the Conestoga have already been made known in England and France, and breeds gotten thought to be specially adapted to the farm; and it would therefore be a quicker way of getting what we want to import one or more of these breeds. And is it not the peculiar province of your association to encourage such importation by liberal premiums? The breeds referred to are the Cleveland Bay and the Clydesdale of England and the Percheron or Norman diligence horse of France.

"The Cleveland Bay is generally clean and well made in most of the parts, being very strong and active, answering perfectly for the team, coach and saddle. There are few horses capable of greater or longer continued exertion in any of these intentions than these."—*Dr. Reese's New Encyclopedia*.

The Clydesdale is a valuable breed of cart horses, bred chiefly in the valley of the Clyde, hence their name. They are strong and hearty have a small head, are longer necked than the Suffolk, with deeper legs and lighter carcasses."—*Farmer's Encyclopedia*.

Says Mr. Edward Harris, of Moorestown, N. J., who imported a pair of Norman horses: "I have been frequently questioned as to my reasons for selecting this horse in preference to the English draught horse of England, whenever brought to this country, must prove a failure; he cannot move out of a walk, which is saying quite enough for him." (He probably refers to the heavy black horse, not to the breeds above described.) "The true Percheron or Norman Diligence horse, on the contrary, combines more strength with activity than any other horse I ever sat behind. All travellers, on entering France are struck with the properties of these horses as displayed in drawing the ponderous

machine called a diligence, by which they are conveyed through the kingdom at the rate fully equal to the average of stage travelling in this country. English horsemen confess that their road horses could not hold out the same place before the same load. (Farm Enc.)

One or all of these three varieties might answer, without crossing. But it might be necessary to cross with the race-horse or with the Morgan, just as wind and action, or wind, action, and good temper seemed most needed.—Mr. Stephens, the distinguished author of "The Book of the Farm," thus describes a cross of this kind on the Clydesdale: "He is not a thorough-bred Clydesdale, having a dash of the coaching blood in him, a species of farm-horse very much in use on the Borders, and admired for their action and spirit. The gelding exhibits such a form as to constitute in my estimation, the very perfection of what a farm-horse should be. His head is small, bone clean eyes prominent, muzzle fine, and ears set on the crown of the head. His neck rises with a fine crest along the mane from the trunk, and tapers to the head, which is beautifully set on, and seems to be borne by the neck with ease. His limbs taper gradually from the body, and are broad and flat—all excellent points in the leg of a draught horse, giving it strength and action. The back of the fore-leg from the fetlock-joint to the body is straight, indicating no weakness in the limb—a failing here causing the knee to knuckle, and rendering the horse unsafe in going down hill. The hind-legs, as well as the fore ones, stand directly under the body, forming firm supports to it. The body is beautifully symmetrical. The shoulder slopes backward, the withers being light and thin. The sloped position of the shoulder affords a proper seat for the collar, and provides the muscles of the shoulder-blades so long a lever as to cause them to throw the fore-legs forward in a walk or trot; and with such a shoulder a horse cannot stumble. The back is short, no longer than to give room to the saddle. The chest is deep, giving it capacity for the lungs to play in and room for the muscles required in draught. The top of the quarter is rounded, the flank deep, and the hind-quarter long. On looking on the side profile of the entire animal, the body seems made up of large quarters, joined together by a short, thick middle, suggesting the idea of strength; and

the limbs, neck and head are so attached to the body as to appear light and useful.

"In a well formed horse, I may remark, the line from the fetlocks to the elbow-joint is equal to that from this joint to the top of the withers. In a low-shouldered, leggy horse, the first line is much longer than the last; but, in the case of this horse, the body is rather deeper than the leg is long, realizing the desideratum in a farm horse of a thick middle, and short legs. The line across the ribs is, like the back, short, and the ribs are round. He is 16 hands. His walk is stately, and he can draw 3 tons on a level ground, including the weight of the wagon. He is a well known animal in Edinburg, and is generally admired. He is the property of Messrs. Howey & Co., the great carriers from Edinburg, into England."—(Farmer's Library, vol. 3, No. 10, pages 439—440.)

It would be useless repetition, to detail the points of the brood mare. From whichever of the breeds above recommended she should be selected, she should be a perfect specimen of that breed. As a general rule in breeding animals of all kinds, when there is much difference in size, between the male and female, the latter should be the larger—because the foetus will probably be large, and require more capacity of womb than can be afforded by a small female. This is a point much insisted on by Lewis F. Allen and other scientific breeders. A case has occurred this season on the farm of the writer, demonstrating the error of the opposite practice. He had bred a fine blooded mare, about 15 hands high, to a large draft horse, and the foal come into the world with a crooked leg. True it has since become straight, but this might not always be the case. The mare as well as the horse should be known to be of good families on both sides; otherwise the foal may inherit defects from remote ancestors. During pregnancy the mare should be worked, or ridden gently, never put into a cart, and turned out for a month or two before delivery. About the time that event is expected, hogs, mules and colts must be carefully excluded from the lot—a neglect of this precaution may cost the life of the foal. The foal should be dropped during the grass season. The weather is then mild, and pasturage abundant and cheap. If worked while suckling, the mare should be fed well and not heated—and the colt must be suckled

twice a day, besides being with the mother at meals and during the night. This is a most convenient time for gentling the colt—and a little pains, now, greatly facilitates the breaking when grown. If the colt comes in the fall, it should run with the mother during the winter, on pasture of grain or grass if convenient, but, if not, on good clover or timothy hay, cut in the blossom state. Curing hay at this stage makes it sweeter, more nutritious and digestible.—John S. Skinner records experiments proving this conclusively. Grain enough must be supplied to keep both colt and dam in good order. Shelter them also from the north-west winds, and from rain and snow. This can be done cheaply with rails, forks, and straw. When a colt is weaned in the fall, it can be treated during the winter, just as a mare and colt would be if together. Give a colt company for a while after weaning; but be sure it is good company. A breachy horse or colt should by no means be selected for this purpose; it has a contagious habit more to be dreaded than the distemper—the disease being curable, the habit incurable.

If the mother of the colt is breachy, she should be kept in a secure lot, and yoked, if necessary, to keep her from jumping. A breachy animal is so annoying, corrupting and expensive on a farm, that unless uncommonly valuable, it should be gotten rid of. The growing colt should never be allowed to get thin, abundant nutritious food developing the bone as well as muscle of a young animal. "The ponies of Shetland, and the still more diminutive steeds of China, when bred on rich English pastures, rapidly increase in size. The horses of Arabia do the same."—(Farmer's Encyclopedia—article, Wild Horse.)

At three years of age the young horse, being strongly and properly geared, can be put to work in a wagon beside a gentle horse and in charge of a careful, experienced driver. It should not be made to pull much at first, but merely to walk along gentle, and get accustomed to the wagon and gear. It can be taught to pull afterwards. As soon as it becomes chafed, or galled, it should be turned out till well. Besides the inhumanity of working a colt or even a grown horse with sore shoulders, it forms a habit of balking, and creates a sore knot ever afterwards in the way of the collar, and liable to gall whenever the work of the animal is at

all severe or protracted. At four years of age the young horse can be put at almost any kind of work for which it is sufficiently gentle, but not kept at it long enough, if very laborious, to break down or be strained. The five year old need not be favored, and the six is in the prime of life if well broken.

Stables should be kept clean and well littered and warm in winter. In summer the horse keeps cooler and more comfortable on pasture at night; and when fed at noon at that season, an open shed is preferable to a stable, unless the latter is uncommonly well ventilated. An experienced plowman recommends washing the body of the work horse in hot weather; he thinks it enables the horse to endure the heat a great deal better while at work. "There can be no doubt it contributes to the health of the animal. The same reasons urged in favor of thorough currying and rubbing would particularly commend this practice and be very refreshing in hot weather, and altogether beneficial, unless done while the animal was perspiring too much; in this case it would close the pores of the skin and give cold; this result would also occur, no doubt in cool chilly weather. Stephens particularly warns us against washing the horse higher than the knees in winter. "There is danger," he observes, "of contracting inflammation of the bowels or cholera, in washing the bellies of horses in winter; and to treat mares in foal—which they will be at this time of the year, in this way, is little short of madness." He recommends watering before meals and rubbing afterwards, as a preventive of colic; that plan allowing the food to settle some before the animal is put to active service. In summer, and also in the warm weather of spring and fall, horses at work should be watered between meals. They are too often allowed to suffer for water during the busy season. A cistern, with a watering trough adjoining the stable, gives great security for the regular watering of the animal, as well as of his cut or crushed food.

Oats and rye straw cut up and mixed with bran or shorts has long been esteemed by farmers a nutritious, wholesome food, cheaper than grain-feeding in the old way.

"*Manager Feeding.*"—A mode wherein the wasteful and expensive rack is superseded, and hay, instead of being fed separately, is cut up and mixed with the grain—has been much ap-

proved in England. The reasons why it is both cheaper and better than corn or oats and fed separately, are very satisfactorily given by Youatt, page 372, as follows:

The system of manager feeding is becoming general among farmers. There are few horses that do not habitually waste a portion of the hay, and, by some, the greater part is pulled down and trampled under foot, in order first to catch the sweetest and best locks, and which could not be done while the hay was enclosed in the rack. A good feeder will afterwards pick up much of that which was thrown down; but some of it must be soiled or rendered disgusting, and in many cases one third of this division of their food is wasted. Some of the oats and beans are very imperfectly chewed by all horses, and scarcely at all by hungry and greedy ones. The appearance of the dung will sufficiently evince this. The observation of this induced the adoption of manager feeding, or of mixing a portion of the chaff with the corn and beans. By this means the animal is compelled to chew his food; he cannot, to any degree, waste the straw or hay; the chaff is too hard and sharp to be swallowed without considerable mastication, and, while forced to grind that down, the oats and beans are ground with it, and yield more nourishment; the stomach is more slowly filled, and therefore acts better on its contents, and is not so likely to be overloaded; and the increased quality of saliva thrown out in the lengthened maceration of the food softens it, and makes it more fit for digestion.

But an improvement even upon the cut and mixed food here recommended by Youatt, has been made since he wrote upon the subject. It consists in crushing grain, shuck, cob, straw and hay, and thus, giving the *economic advantage* he speaks of to still greater degree, (for he does not mention the cob, now known to contain a considerable amount of nourishment,) and at the same time saving the horse the labor of grinding down his food, leaving him the time thus saved for repose. The admixture of the roughness (chaff as he calls it) keeps the ground grain from cloying in the stomach, and the water added in mixing, supplies the place of the saliva furnished to *slow feeding*, for softening the food and preparing it better for the digestive organs. Many farmers estimate the advantage in saving food by this mode of feeding to be as much as one half.—The machinery

ushing varies greatly in the quantity of power required and work executed in a given time. One can be worked by hand, some by horse-power, and some by steam. Sinclair's, costing \$35, can grind about five bushels an hour, with one horse and two men. (See Cultivator, January, 1852, page 56.) A. N. Wood & Co's portable steam engine, of eight horse-power, is used by J. A. Humphreys, Esq., of Versailles, Ky., in preparing food with corn-crushers and saw cutters for one hundred head of cattle and horses.

With one of Sinclair's screw propeller Cutters he has cut up a four-horse wagon load of oats in twenty-two minutes, and with Pitt's crusher he has ground thirty bushels of corn in one hour per hour. (See Cultivator, July, 1856, page 211.) On the same page is described a convenient "Cut-Feed Mixer," intended to prevent the accumulation and freezing of water in the bottom of the box in the winter. The box is a half-circle, and the lid another half-circle; the box containing the feed, and the lid the "wheel" with three spokes or paddles, for mixing the food. After the water is poured in upon the food, it requires but half a minute to do the mixing completely. *Boiling* grain for work horses is of very questionable advantage. Stephens (page 547 Farmers' Library) gives the results of very careful experiments in feeding boiled food, raw food, and buried food—the last probably equivalent to crushing. "The two first," says he, "gave results so nearly alike, that it seems inexpedient to incur the expense of cooking food for horses. Bruised raw grain seems the most nourishing, and, in not requiring cooking, of course the most economical mode."

Pumpkins, carrots, beets, turnips and potatoes, cooked or raw, make a very agreeable addition to the horse's bill of fare. The two first are probably the most wholesome and nutritious, and the first and turnips the cheapest.

Horses should be salted once or twice a week. For mares in foal the salt must be free from blood.

An essay on the farm horse would, in the estimation of many, be very incomplete without some mention of the merits of the mule, for they regard this the best of all work-animals for the farm.

Mules are smaller than horses, but when from 14½ to 15½ hands high, are capable of performing any of the ordinary farm work of the latter.

They may not be equal to large horses for a single hard pull, but their powers of endurance are wonderful, and their ability to stand heat superior greatly to that of horses possessed of as much strength. In the West Indies, and in the Southern States, they are employed and almost exclusively instead of horses. Their docility is greatly superior to that of the race-horse, the only breed of horses matches for them in the heat of the July or August day. In health and thrift and hardihood they have greatly the advantage over horses. They are rarely known to be sick, perhaps never blind, except by accident, can often work a whole winter on a farm without shoeing, can be maintained on less food and cheaper food—the proportion of hay to corn being much greater than with horses, and the whole amount of food no more than two thirds as great—they suffer less, and recover more easily from neglect and abuse, and are a proverbial for longevity that the question has been asked, "Did any body ever see a dead mule?" Some have been known to attain the age allotted to, but so rarely attained by man, viz: three-score years and ten; and many have been known to be valuable for work at from 30 to 40 years of age, whereas it is a rare thing for a horse to be worth anything after 20 years. They are better than horses for cultivating crops, their feet being smaller, and their steps more straight and true, and also requiring a shorter swingle-tree, they can be driven closer to the crop without treading on it or breaking it down. Their mischievous propensities are perhaps greater naturally than those of horses; but if they are brought up and treated properly, they are by no means troublesome. The writer owns a pair of mules which have been working on the farm for about seven years and have never gotten into mischief, except when led into it by breachy horses. Neither have these mules given any appreciable trouble by the stubbornness for which they are thought to be remarkable. In his opinion the stubbornness of the mule results from abuse, and its mischief from negligence on the part of the farmer, whose low fees may tempt the horse as well as the mule to become breach.

John S. Skinner, in his valuable essay, "The Ass and the Mule," sums up the comparison between the horse and mule, with the opinion that the horse is (all things considered) twice as expensive an animal for farm-work.

In breeding mules for the farm, the best work-mares should be selected. "There are three varieties of jacks, the heavy Spanish jack, with slouching ears, answering to the call of the cart-horse, another Spanish breed called the Andalusian, with ears shorter and erect, of tolerable size, plenty of bone, active and more spirited, answering to the hunter, and the Arabian jack, with ears always erect, of a delicate form, fine limbs, and full of fire and spirit." See Skinner's Essay for a fuller description — Though judicious crosses might produce a better jack than either of the three now is, the Andalusian is at present the best suited to the wants of the breeder for the farmer.

From the New England Farmer.

Items in Agriculture.

SWEET POTATOES.

Allinson, of New Jersey, sets the small tubers under glass, early; after sprouting, places but one plant in a hill made flat or saucer form; after they begin to run, place drift sand around to prevent evaporation and retain heat. The urine of the cow contains the 14 ingredients found in the sweet potato, while the dung, according to Leibeg, contains but 5 of these.

IRISH POTATOES.

Knight, of the London Horticultural Society says that by taking off the flowers of this root as soon as they appear, the crop of the tubers or roots will be increased one-quarter.

GRAPES.

The roots of the vine will follow manure deeply buried, and are thereby retarded. Underhill, an extensive grower of the Isabella grape at Croton Point, buries his street manure very deep; thus the full stimulus of heat does not reach their roots until late in the season, and thus the energies of the vine are not directed to the making of wood, but fruit. The first pushing of the vine being independent of the roots.

SALT AND LIME.

Pell, the extensive grower of apples in New York, says that he has found a composition of one part salt and two of shell lime a capital manure for almost every crop of fruit, grain or vegetables.

PLUM WARTS, &c.

The human stomach accommodates itself to various articles of food; a Greenlander would

not starve if shut up to train oil alone; but plants are not so accommodating, they are more restrictive. The peach tree, plum, &c., need the right elements in the soil for their perfect growth. It is likely that the excrescence upon the plum, the bitter rot in the apple, and the cracking of the fruit of the pear, result from the lack, or the exhausting of some consistent elements of food essential to healthful growth and perfect development.

SULPHATE OF IRON.

Gris's method to restore vigor to sickly plants is to take 3 or 4 drams of sulphate of iron (green copperas) to a quart of water, to water roots, 1-4 of a dram for showering the leaves; with one ounce of copperas we prepare 16 quarts of the solution for application to the leaves. — The French physicians have used iron as a remedy for chlorosis in man. Scoria or blacksmith's cinders have been used around the pear tree with marked success. Probably the effect of hanging old horse shoes upon the limbs of trees for the prevention of insects, has resulted from the gradual mingling of the oxide of iron with the soil of the roots.

GUANO.

A heaped tea-spoon full of Peruvian to one gallon of soft water for pot plants in a growing state. A barrel of yellow loam, 1-2 bushel of broken charcoal, 1-2 peck of guano, is a fine compost for pots or garden vegetables.

MELON.

Christiana melon. This fine early yellow fleshed cantelope, Downing thinks was produced from a cross of the citron and netted varieties; it is earlier than the green flesh sorts.

ASHES.

Wood ashes and peat well incorporated, is we believe, as fine a compost for fruit trees generally as we can well obtain.

SUGAR WATER.

Sir H. Davy has said that different plants of grapes grow much more luxuriantly when watered with solution of sugar, than with common water, the two liquids differing in nothing but the presence of carbon in the former, and its absence in the latter.

QUINCE.

It is a delusion that these trees want a damp and shady position, and that they do not require manuring. They should be placed in good loam, and the earth to be loosened deeply by the subsoil plow, or trenched by double

spading, and well manured with a good compost in the drills. Shorten in the branches (1-2 of last year's growth,) give the roots a good drenching with water in setting, leave the soil around the stem concave, place them 10 feet apart, and the rows 12 feet; prune just after the fall of the leaf, or early in March; fork in late in the fall, 3 or 4 shovelfulls of manure; after digging and loosening the soil in the spring, then give the whole a broadcast of salt.

LEAF MANURE.

The best manure, says Liebeg, (Humus) for any plant is the decomposed leaves and substance of its own species; hence when the small onions or scullions as they are called, are left upon the bed, and turned under the soil, they greatly benefit the succeeding crop. Leaf manure is not, according to him, an entirely vegetable substance, but rather mineral vegetable, as they contain large quantities earthy matter. An annual dressing of salt in moderate quantities, sown broadcast over the whole garden early in spring, is beneficial, destroying the germs of insects and acting on the foliage of plants, retaining moisture, &c. Ten bushels to the acre will answer the purpose.

AGRICULTURAL EDUCATION.

The value of products in Agriculture in U.S. in 1847 was \$700,000,000.

| | | | | |
|---------|---------|----------|----|----------------------|
| 23,076 | persons | employed | in | inter. navigation. |
| 56,021 | " | " | | on the ocean. |
| 65,255 | " | " | | learned professions. |
| 119,507 | " | " | | commercial. |
| 791,749 | " | " | | manufactures. |

While in agriculture, the value of its products in 1747, was \$700,000,000.

LIME.

A farmer commences with the use of lime on his soil; the first season he sees an improvement; he continues its use for some two or three years, and finds but little, if any perceptible change in his crops; he now cries humbug, this use of lime. Now the truth is, that in his first application, the land was rather deficient in lime only; but in not using other manure in connection, other substances in the soil were exhausted; potash or soda was now wanted, and hence the constant use of lime only for a series of years will injure and deteriorate the soil.

WILD GRAPES.

The question is often asked by the farmer, whether the native grape, if removed to our gardens and subjected to good culture, would not improve in the character of its fruit, and become less austere or foxy. This method was adopted some years since by Professor Gimbrede, of West Point, who collected every known variety from the woods, manured and pruned them with great care, in the hopes of changing or ameliorating their character; the experiment was a failure, although the fruit was greatly increased in size, some berries being larger than the Black Hamburg, yet the flavor and rough state of the fruit remained the same.

Yours,

J. W. IVES.

How to Raise Turkeys.

A correspondent of the Country Gentleman says: Will you allow me in farmer style, through your paper to give my experience in raising turkeys, for the benefit of your readers. I commenced raising turkeys about three years ago, but never met with any success until the last season, 1855. The winter previous I wintered one tom and two hens, and they laid sixty eggs, from which I raised forty-five turkeys from fifty hatched. Until the last summer I never could raise over one-fourth that were hatched.

My mode of raising them is as follows: I made each hen lay two sittings, which they will do without injury if they are well wintered. I sit two sittings under dunghill fowls and the remainder under turkey hens. As soon as they are hatched, I have crates provided and immediately shut them up for four weeks, and then let them range anywhere on the farm. I feed them on Indian meal and keep buttermilk constantly before them. I throw about half an ounce of asafetida in their milk each day, and this keeps them lively, and they are never bothered with lice. When I let them out, they seem to grow up without any more trouble.

I think there is nothing that will afford our farmers greater profit than turkeys, if managed in this way. I think the whole secret of my success lies in the asafetida. My debt and credit stands as follows:

It has been stated before, that the most efficient part of farm-yard dung is that small portion, invisible in the mass, which consists of earthy and alkaline salts and ammonia. The other ingredients which constitute the great bulk of manure, consisting of carbon and the elements of water, are abundantly supplied by the atmosphere to the growing plants, and therefore, a loss of these by needless fermentation or neglect, is of little importance, were it not that their loss is unavoidably accompanied with the waste of the more essential substances in the manure described. It should be the object of the farmer, not only to prevent the waste of such precious substances by every means that knowledge and ingenuity can devise, but also to make every addition to them that nature or local circumstances have placed within his reach.

These very desirable purposes he will be better able to carry into effect when he fully understands the nature of the manure he has under his management, and by that means he can exercise a sound discretion in adding to its quantity and effect.

Let it not be alleged against any inquiry by the farmer into the constituent nature and chemical properties of his manure, that he has no ideas attached to the several terms used to designate the substances of which it is said to consist. He is obliged to learn the names and uses of the several implements he employs in the cultivation; and upon what principle, we may ask him, should he refuse to make himself acquainted with the names and general properties of the produce he raises? But little effort is required to obtain a precise knowledge of the several elements or substances, at least by the employment of which, he is enabled to raise and increase his crops, and is it not pleasant to learn as well as most useful to understand, the reason of their value to him? Nor is this limited degree of chemical knowledge of difficult attainment. Every farmer has seen wood ashes, and also seen water poured upon them, for the purpose of extracting a something; that substance is chiefly potash, which may be seen by evaporating the clean water, which leaves the alkali behind, and the dregs which remain behind consist, for the most part of earthy phosphates—a similar substance to the earth of bones. Soda is now so commonly used, as to be known at sight to most persons;

lime and magnesia are still more familiar; ammonia is the common pungent salt of smelling bottles; sulphuric, muriatic and nitric acids are extensive articles of commerce, and with phosphoric acid, may be found at any chemist's shop, and these acids as well as their bases—potash, soda, lime and magnesia—may be had for a trifle, either separately or combined as salts. When, therefore the appearance, or more obvious qualities of these several substances have become familiar, their efficacy as manure may be proved by mixing them thoroughly with two or three hundred times their weight of mould, and applying the compost to garden plants. The farmer might in this way soon become acquainted with the name, character and properties of the invaluable substances contained invisibly in the muck of his yards; and would be the better able, and more desirous, to prevent their stealing away from him."

Multum in Parvo.

A "notion" of ours.—If we could manufacture a journal for farmers precisely to our liking, we would have all the short, pithy articles, containing as many thoughts as words in the May, June, July and August numbers, reserving the long and more labored ones, till farm work should become less absorbing.—Without expecting however to reach our "beau ideal," we will attempt a few thoughts for the season in so few words that the working farmer can catch them at an odd moment, and digest them as he goes afield.

A duty of yours.—The first thing for every farmer is to improve himself, and see that his children are growing up to adorn his own profession or any other they may choose to engage in. More than half the future Presidents, cabinet officers, men in all responsible stations, are to be grown on the farms of our country.—Now, farmers and planters, you must grow large crops; it is a great loss to only half cultivate the land. You must grow fine cattle; it would be a shame to perpetuate the scrubs.—You must drive a horse to admire and not one to be ashamed of, since in the long run it will cost no more; but above all things you must grow good boys and girls, for the country wants them, it must have them, and nobody in the world is so well situated for raising them

just right, healthy, vigorous, intelligent, incorrupt, as the farmer. Let no day go by, not even in harvest, without getting a new idea, and see to it that your children are getting new ideas and right ones. We want to say more, but you must think out the rest.

The In-door Stock.—In order that the farmer may always be on the road to self-improvement, that his sons may assist in his labors not only without injury to themselves but with positive benefit, and that his laborers (for he ought to look to their good) may participate in the general welfare, the work should, as far as possible, be so laid out that every hand may do a reasonable day's work every day, and never more than a reasonable day's work in one day. This is very important. Where the farm work is skilfully bossed, to use an expressive term, the farmer himself is more at ease, has more leisure moments, can get a little time to read, can think more clearly, is less confused in his ideas, and will possess a calmer and more reliable judgment. It is so with all who work under him. The more perfectly every one understands his duty, the more easily can he do it, and the more opportunity can he get for self-improvement. Lay out the plan of the farm operations considerably; execute the plan kindly but firmly. Nothing, we know, is more difficult, yet few things are more important.—The products of the farm will be greater; the profits will be increased; and what is infinitely more, every man and boy on the farm, and every member of the household will arise to a better condition in such a state of things. Our readers will forgive the homely designation at the opening of this paragraph, since we have just avowed our belief that out of such a stock will come the future Presidents and great men of the nation.

Out-door Stock.—Of horses, cattle, sheep, swine, poultry, etc., we suppose our readers know more than we, and better understand their interests. A word nevertheless for them to think of. If you get into a better class of horses for the road, or of horses, mules and oxen for field labor, there will be extra expense in the outset, but ever after they will do you more work in proportion to their feed, and whenever you have one to dispose of you will receive more. Is it not so? and is not the profit of fine working animals greater in the end? and is there not an innocent pleasure in

seeing and using such animals? and is there not in the constant use of such animals, grateful, capable of appreciating kind usage, noble spirited, a re-action favorable to the man himself? We hardly dare broach this last thought. It will to many of our readers look like a very whim. But look at it. All the world is a school to one who has his eyes open. We verily believe that more can be learned from a majestic thunderstorm than from a tempest in a tea pot; more from a noble, tall, wide-spread tree than from a shrub; and why not more from the driving of high bred animals in one's life, than from being constantly with those of inferior grades? The thing is not unreasonable. If we had boys growing up on a farm, we should rather they should drive the best animals than the poorest—should expect they would love them more and abuse them less, and make *likelier* men for it, other things being equal. But there are motives enough, aside from this, to encourage improvement in working animals.

The great motive with the farmer, with regard to working and all other animals will be, that after having once made the change, there will be an increased profit. But how shall the improvement be inaugurated? The generality of farmers can not well pay fabulous prices for stock to begin with. We think they should select the best of their own as breeders. More attention should be given to pairing them suitably. Select the best of each kind early; rear them in a way to produce an early and high development, of whatever the animal is capable of making. Good keeping, kind care, and suitable pairing will, in a great majority of cases, be followed with satisfactory results.—The farmer who will proceed in this way, instead of selling the best of his young stock to the butcher, will soon find improved races about him. A few years will witness decided changes for the better. If he would avoid loss of time let him procure blood stock from those who have imported and are propagating it, nor should he begrudge the payment of pretty high prices, as compared with the price of common stock, since the results will soon compensate him, and especially since those among us, who have imported and are breeding fine stock are doing a good thing for the country and at a very heavy outlay.

The House, Out-buildings, Barn.—Don't

talk about the house now, we seem to hear you say. Well, perhaps you have enough else to do. But a word about the barn, and we will let the rest go till you are more at leisure. Is it all in order? If not, look about and see what can be done before the crops are gathered in. Do that now, and leave the rest for autumn, but do not forget to have all right from foundation to ridge-pole before another winter comes. Winter in no part of our country is much to be dreaded by the farmer, if he has a warm barn and warm sheds for his cattle. It is inhuman, or at least inhumane, not to have them, in by far the largest part of our territory, and it is unprofitable in all.

Grass for Hay.—When shall it be cut? We say clover, when in full blossom; herds-grass when out of blossom, but before the seed is fully ripe; other grasses, a little before they begin to dry up and become woody. The sugar turns to wood, and becomes indigestible if grass stands too long. If cut much before or much after the periods indicated, it is less valuable. Nevertheless the difference is not as great as sometimes stated; and we say again, as we have often said, that no farmer should do more than a fair day's work in a day, nor require his hands to do much more, for the sake of cutting his grass at precisely the best time. It comes just when the hoe crops are to be attended to, and on the very eves of the wheat, rye, barley, and oat harvest, and when the flax, if that is grown on the farm, and we think it ought to be more than it is, requires to be secured. All good farmers are exceedingly anxious to get in the hay at the right time; and how to do it and not neglect other business, is a harder problem than that of the fox, the goose and the bushel of corn. Every farmer must solve it for himself. There is one a little worse than to mow too soon or too late, and that is to have hay caught in a shower when ready to go into the barn. The damage to hay, of being wet after being thoroughly dried, is considerable, in addition to the labor of drying it over again. Yet it would not be wise to pitch a load of hay in less than half the usual time even when a shower is at hand. Health is worth too much to peril by an unreasonable violent exertion. Our idea is that more men are seriously injured on the farms of this country in July than all the rest of the year. The effect follows insidiously and they

are not aware what the cause was. Clover is better to lie a few hours in the swath, till the ground becomes heated, then to be turned over on the hot ground between the swaths, to be put in small tumbles towards night, these to be turned over the next morning at 10 or 11 o'clock, two to be put into one at middle afternoon, the same day, and then be let alone till pretty thoroughly dried, than to be treated, as it often is, in a way to deprive it of nearly all its leaves, and to convert its stalk, by too much exposure to the sun, into a dry, woody and indigestible mass. As to the degree of dryness which should be aimed at, in curing clover and other grasses, much depends upon the quality of the moisture. If it is the natural juice of the grass, no harm accrues, even if it heats slightly in the mow; but if it is rain water, the effect is worse. We have always observed that a water soaked load injures the whole mow. A too green load may produce a fermentation, which we should dislike, but is not as apt to produce smut and unpleasant odor.

Indian Corn.—When will it get its three dressings this year? While we write (June 15) it is hardly out of the ground. Our opinion has always been in favor of giving this crop its three dressings in rapid succession so as to finish it before entering upon harvest, believing that if the weeds are well fought in June and the beginning of July, they will not become very impudent after that, and that the stirring of the ground will not more than compensate him for the injury to the roots, by late cultivation. But when that work will be done this season, we suspect every man will have to ascertain for himself. We will only say that we do not believe that very late cultivation is good for this crop.

Pastures.—Our observations incline us more and more to the belief that permanent pastures are the true policy. This of course will depend much on the nature and use of a farm.—The grain farmer, whose land is all suitable for the cereals would hardly like the idea of setting apart large portions for permanent pasturage; and the farmer on broken land can do no otherwise if he could. In a recent trip through the Eastern counties of this State we have been highly gratified with the almost universal thrift of the farmers, and have witnessed the most striking proofs of the benefit

of plaster on old pastures. Thousands of the farmers in these high mountain regions are using it, and the quantities of milk, butter and beef coming down the Harlem road, show with what effect; while the style in which these farmers live shows that a good deal of money goes up the same route. It is said that plaster does not suit all land. We would not recommend a large and indiscriminate outlay for plaster by those who have never tried nor seen it tried near them; but we do say that the farmer who has extensive pasture lands, who goes on from year to year without informing himself by actual trial, whether fifty cents' worth of plaster to the acre would double the feed, is not true to himself. Wood ashes at twenty-five cents a bushel, or anything less, are a good investment for most pastures; and we doubt whether there are many pastures on which it would not be good policy to put 100 pounds of plaster annually, at \$10 the ton, though we believe that in many regions, it can be had for less than half that price. The good effects do not always come out the first year. Those who make the experiment should continue it two or three years at least. We say to farmers, after observing the good effects of plaster on many farms for some twenty years, and after hearing from not a few farmers that plaster does them no good, believe nobody, take nobody's word, try for yourself, and see with your own eyes, whether or not plaster will double your feed. The question is worth settling on your own authority.

Salt for the Extirpation of Moss.—"It is stated to have proved efficacious during several years' trial. The salt is sowed broadcast, and in a few weeks after its application the moss (and heath) begins to wither, and shortly is destroyed; in its place sweet grasses and nutritious plants make their appearance, and the herbage on such spots is greatly relished by cattle. It is warned not to use too much salt, else the grass itself is injured; the proper quantity is (in English measure) four bushels per acre." So says the Journal Ag. Soc. Hanover, translated by Professor J. W. Johnson. We know nothing about it. The trial would cost little, and should be made at once. The farther from the ocean the more likely it would be to succeed.

Saltpetre a Cure for Garget.—J. Ellsworth, of Ann Harbor, Mich., says of a cow with

swollen udder, that "I then pronounced it garget, and gave her a teaspoonful of saltpetre at night in her mess, and another dose the next night, which has cured her, and she is gaining in her milk very fast." We have seen this recommended so often and from so high sources, that it would seem as if there must be truth in it. Were a case of the kind ours, we would try half a teaspoonful, morning and night, and continue it some days, and then if a cure were not effected, perhaps would increase the quantity. Potash, whether in the form of saltpetre or saleratus, is more congenial to the soil than to the animal's stomach, and if taken into the latter at all, should be taken rather as a medicine than as a part of the habitual food, whether for man or beast.

Short Horns.—Mr. Thomas Willis, of Swate Ireland, obtained from a Short-horn cow: "In 1851, when 3 years old, from one week's cream, 18 lbs. butter (16 oz. to the lb.) In 1855, when 7 years old, from one week's cream, 21 lbs. 4 oz. In 1857, when 9 years old, from one week's cream, 24 lbs. 8 oz. In the same year, the second week after calving, 24 lbs. 8 oz. In 1853 we conversed with a farmer in Berkshire (Eng.) who milked sixty Durham cows, which he said would average 1400 lbs. of beef when fattened, that he found them the most profitable dairy cows, and that a brother of his, who had milked the same number of Herefords, was fast exchanging them for Durhams, convinced that the latter were the most profitable. These facts look very much as if the Durhams, or Short-horns may be better, as milkers, than we have been wont to believe. It should be remembered, however, that the feed in all these cases was that of no ordinary pastures.—Ed.

Plough, Loom and Anvil.

GUANO.—Persons using this fertilizer should be careful to prevent it coming in contact with any wound, sore or abrasion of the skin. Mr. Edward Hall, of Dennis, in planting produced a blister in the palm of his hand, and a portion of guano coming in contact with the wound, was followed by a severe swelling, which became so painful that apprehensions were entertained that amputation might be necessary. Under the surgical treatment of Dr. Nye, the hand is now partially relieved, with a prospect of ultimate recovery.—*Real Estate Register.*

Covering Manures.

The following is from the American Farmer. It is agricultural gospel and should be treasured up and practiced. It will save you money as well as coin it. This is practical—it has been tested. You may rely upon it. Read it again—

“It has been said with great probity and truth, that manure is the farmer's gold mine, and we will add, that manure is to the vegetable kingdom what blood is to the animal system, the source of life. We, therefore, most earnestly advise, nay, conjure every culturist to exert himself by every possible means in his power to accumulate everything that may be convertible into manure, and when accumulated, to protect it from the sun, wind and rain. But few ever think how great a loss they sustain, by permitting their manure to be exposed to the sun, the wind and the rains, and as few reflect that ten loads of manure, well taken care of, are intrinsically worth more and will go farther as a fertilizer than twenty loads that may have been kept without regard to the preservation of its more enriching properties. Many a farmer, through want of attention, suffers his dung pile to become exhausted of its principles of volatility long before he hauls it out to his grounds for use—and many, after hauling it out, permit it to remain unplowed in for weeks, thus exposing it to further loss—and then, perchance, blames either his land or his manures for a fault that should properly attach to himself, for having failed to preserve the virtues of his manure.

Every body of manure should be kept covered with earth a few inches in depth, until taken out for use, and when taken to the field should be plowed in as speedily as possible, or each pile, as thrown from the cart or wagon, should be covered with the surrounding soil, and that compressed with a shovel. But this kind of care, owing to the high price of labor in our country, is more than can be expected from the generality of farmers—therefore, for the present, all that can be expected is this, that the cattle and other yards should be sufficiently dished in form as to prevent the richness of the manure from being wasted by running away on the occurrence of each succeeding rain; that each yard be provided with a large body of rough vegetable matter and earth

—say to the extent of six or eight inches or more in depth over the surface of such yard, the dish-like form being preserved in spreading—to absorb the liquid voidings of the stock, and that plaster or charcoal be strewed over the yard every few days to arrest and fix the volatile gases—and further, as the excrements of the animals accumulate a few inches in depth through the season over the yard, these should receive additional coverings of earth.”

On the Advantages of Stirring the Soil in dry weather.

We find the following Experience in the Genessee Farmer, an old and staunch friend, by the way, that takes occasion to call and give us good advice each month. Read it—

“I have known instances where a narrow strip has been left unbroken in a summer-fallow during a dry summer, and after harvest it was all plowed together. The unbroken strip would appear almost destitute of moisture, while that which was plowed and frequently stirred with the harrow or cultivator exhibited quite a contrast.

It is the common experience of farmers, that wheat sown in a dry fall upon fallow ground is much more liable to come up well, than when sown on stubble.

Again, in hoeing corn in very hot weather, you could fairly see the corn grow, upon leaving the field at night. I have measured some hills that were hoed and some that were not, and the next night compared their growth during the twenty-four hours. The result was that the hoed had made about twice the growth of the unhoed.

Two years ago last summer I planted rather late in the season a small piece to cucumbers for pickles. The soil was dry, sandy loam, with a warm, southern exposure to the sun. I determined to stir the soil often. We all felt the effects of that unusually severe drought.—The piece yielded a fine lot of pickles, the vines remaining green and bearing, until destroyed by the frost; while vines in the neighborhood treated in the ordinary way, were dried up and barren. So much for facts. Now, how are these results to be accounted for?

We have seen that the soil frequently stirred had gathered moisture, and had also received from some source, nutrition. From what source

and by what powers were those supplies of moisture and nutrition derived? It is a well known fact that the driest atmosphere contains vapor, which is usually deposited in the night upon any substance that is sufficiently cool to condense it into water in the form of dew. At the close of a hot day, when the air is calm and the sky clear, vegetation soon radiates sufficient heat to reduce its temperature to the dew point. The naked earth does not possess this power; hence we often find dew upon vegetation, when the bare ground is dry, not having cooled enough to condense the vapor in the proximate atmosphere. But if the ground is mellow, the air will penetrate its surface, carrying its vapor until it reaches a cooler soil, where it is condensed into dew, which diffuses itself through the mellowed earth.

Your agricultural readers have probably noticed that fresh plowed ground is frequently covered with dew, and sometimes with frost when the adjoining ground is dry.

I think I have succeeded in accounting for the presence of moisture in soil frequently stirred, when almost entirely wanting in compact ground; yet I believe that water is not the only ingredient that soil frequently stirred derives from the atmosphere.

I am combined with you, Messrs. Editors, that nitrogen is an important element in the pabulum of crops. Nitrogen is present in the form of ammonia to a certain extent in the atmosphere, and as it has a strong affinity for water, being absorbed by it in large quantities, is it not reasonable to infer that it is combined with the vapor, and with it conveyed to the roots of growing plants to minister to their urgent necessity? Like favorable effects may be produced in mellow soil by the light showers that frequently occur, even in the driest weather. The difference in the depth to which light showers will penetrate in soils frequently stirred, and those left hard and baked, is very appreciable.

In conclusion allow me to exhort my brother farmers to keep the plow, the hoe and the cultivator pretty busy in their corn, potatoes, root crops, and even their wheat fields, believing it will do more to counteract the injurious effects of our severe droughts, than any other means which they can employ.

Palmyra, N.Y.

P.C.R.

"That there are advantages to be obtained by stirring the soil in dry weather, no person can doubt who has ever tried it, and as there certainly is some cause therefor, every inquiring mind will seek to know what those causes are. I am convinced that by the stirring, the soil causes the moisture from below to rise to the surface, and also prepares the soil by loosening it to absorb and retain the moisture of the atmosphere, which is so very essential to the growth and maturity of the growing crops, keeping it green and in a flourishing condition during the dry weather. Whereas if the soil is not stirred, (but let it wait for rain, as some farmers have done to my knowledge, because they were afraid they would kill, or at least very materially injure their crops,) after a few days it will become so dry that the moisture from below the surface will not rise even during the night season sufficient to keep the crop green and flourishing, and the soil will fail to absorb and retain the atmospheric moisture; hence the crop becomes withered and begins to show signs of failure much sooner than where the soil was stirred and kept loose, proving conclusively, (to my mind at least) that stirring the soil in dry weather is a great advantage to the growing crops.

Laurel, Delaware.

W.

Mysteries of a Junk of Coal.

For years no one supposed that a piece of soft coal dug from its mine or bed in the earth, possessed any other property than being combustible, or was valuable for any other purpose than as a fuel. It was next found that it would afford a gas which is also combustible. Chemical analysis proved it to be made up of hydrogen. In process of time mechanical and chemical ingenuity devised a mode of manufacturing this gas and applying it to the lighting of buildings and cities on a large scale. In doing this other products of distillation were developed, until step by step the following ingredients or materials are extracted from it:

1st. An excellent oil to supply light-houses, equal to the best sperm oil, and at a lower cost.

2. *Benzole*. A light sort of ethereal fluid which evaporates easily, and combining with vapor or moist air is used for the purpose of portable gas lamps, so called.

3. *Naptha*. A heavier fluid, useful to dissolve Gutta Percha, India Rubber, etc.

4. An oil excellent for lubricating purposes.

5. *Asphaltum*, which is a black solid substance, useful in making varnishes, covering roofs and covering over vaults.

6. *Paraffine*. This is a white chrystalline substance resembling white wax, and which can be made into beautiful wax candles. It melts at a temperature of 110 degrees, and affords an excellent light

All of these substances we learn by the Plough Loom and Anvil, are now made from the soft coal found in Kentucky, and manufactured by the Breckinridge coal company at Cloversport, in that State. They have twelve retorts in operation day and night, consuming eight or ten tons of coal every twenty-four hours

One can hardly realize as he takes a lump of heavy smutty coal in his hand, that he holds concentrated therein, all these different ingredients chained within, and which a little heat properly applied will liberate and present in their separate forms, ready for the several purposes to which they are adapted.—*Maine Farmer*.

From the Country Gentleman.

Deterioration of the Wheat Crop —One Cause.

Your columns have been occupied occasionally for several years, with direct statements of the fact that seed wheat is materially injured when threshed by machine, or with indirect and incidental allusions to this fact, in articles treating of matters connected with it. The injury thus done to seed wheat has been frequently set forth as a reason why the quantity of seed formerly sown and deemed sufficient for an acre should now be increased considerably, as a large proportion of the kernels are usually broken or otherwise injured, as to make it impossible that that they should germinate. The injury thus done, has also been presented as a probable cause of the young plants being feebler and slower of growth, and consequently more liable to attacks of insects, weevils, &c than if the produce of sounder and plumper seed.

Deeming the considerations above named, and the changes in ripening and threshing wheat intended for seed, which would naturally follow from practicing according to these considerations, of no little importance, I have been grat-

ified to see the question in my caption discussed with ability and earnestness by a writer in one of the best, and one of the neatest appearing journals of the west, namely, the *Wisconsin Farmer*. This writer, who says he is neither a farmer nor a man of science, lends the sanction of his authority—that of a man of good judgment—to the views which have been named, as often presented and inculcated in your pages. He says that in Wisconsin the question is often asked, “Why cannot our state raise as good wheat as she used to do before about 1850?” In reply to this question, this writer, who uses the signature of J. C. L., Juneau, Wis., states that when the country was first settled the inhabitants threshed entirely with the flail, and were accustomed also to save the ripest and best of the grain for seed. To secure the ripest and best they were in the habit, many of them, of throwing down the bundles and beating the tops until that portion that was completely matured, and most easily, therefore, freed from the hull, had been threshed out. “The bundles were then thrown back upon the mow and reserved for the mill.”

By this course the very best of the crop was saved for seed, and secured whole and uninjured; whereas it is generally allowed that the machines now used break the largest and best kernels, and injure a great many so as to put them beyond all possibility of germinating.

I have been informed by those who have been at the pains to investigate this subject, and to examine wheat after threshing, that they have noticed many kernels in which the little germ towards one end seemed to be beat in or scooped out, and at all events injured so as to appear quite unlike its condition in a sound kernel.

These suggestions will receive, I trust, the consideration to which they seem to be well entitled, some at least among your readers, and the farmers of New-York and other states, as well as of Wisconsin. If any of your readers have reserved a patch of wheat for seed, and threshed it by flail, of late years, or threshed out some of the ripest in the way above mentioned, we would be pleased to be informed the results observed in a subsequent crop.

OBSERVER.

Good wheat soil contains twenty times more lime than old, exhausted fields.



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Miscellaneous.

From "Cozzen's Wine Press," (published in N. Y.)
American Wines.

In Georgia, the luscious muscadines, gathered in the wild state, produce a wine of considerable merit; as yet, no attempt has been made to give them a formal training, except here and there, upon a small scale.* This is also the case in South Carolina. But here we are in a sister State, a land of promise, of vines,

* Dr. Cammack, of Athens, Georgia, has quite a large vineyard, and raises quantities of grapes annually. Whether he makes wines, we do not know. There is much wine made for family use in various parts of G., from the wild grapes.

and pines, and mines; of tar and turpentine; the natal soil of the Isabella, the Catawba, the Herhemont, and the sonorous Scuppernong—North Carolina!

We shall have occasion to speak of the Catawba, the Isabella, and the Herhemont, hereafter; the two first, unquestionably owe their reputation to the skill of the cultivators of Ohio and New York, and have only a limited growth in their native State; but Scuppernong vineyards are found from Currituck on the extreme north, to the southern counties on the Cape Fear River, and extend inland, almost to the foot of the Blue Ridge Mountains: while so various are the qualities of wine produced, that some kinds command three or four dollars per gallon, and some kinds can be purchased for five or six dollars per barrel! There are two species of this grape, the best having a white, silvery skin, with a rich, metallic lustre, while the inferior kind bears a small, black berry. Mr. Longworth says, "the black Scuppernong bears from one to four berries on a bunch, and would, in times of war, if lead be scarce, be as valuable, even when fully ripe, as the Fox grape, for bullets." The white Scuppernong, also has a very small bunch, and is a better grape than the black. But the skin is thick, and the pulp hard; it will never be valuable as a wine grape, unless to give to other must aroma and flavor.

If for no other purpose than this, namely, to mix with the must of less flavoured grapes, to

give character to the wine when made, this Scuppernong will prove to be most valuable to this country. The "Traminer" of the Rhin-gua, a small berried grape, abounding in saccharum, and full of aroma and strength, is so used to mix with the "Riesling," the favorite grape of the Rhine, in the production of the first class German wines. And that the generality of European wines owe their excellence to the judicious mixture of various growths and vintages, is so well known as scarcely to need repeating here. In particular, Madeiras, Sherries, and Champagne wines are so composed; the *capitaz*, or head butler of the Spanish *bodega*, or wine-cellar, being a most important personage, to whom is confided the exquisite task of balancing flavor against body, and lusciousness, which might cloy, against acerbity, which might repel until the whole perfected vinous mass becomes the golden potable which even the gods might envy. So highly are the services of this great functionary prized, that the *capitaz* of a large proprietor seldom fails to amass considerable wealth, as an instance of which, Juan Sanchez, the *capitaz* of the late Pedro Domez, died recently, worth £300,000.

But the value of the Scuppernong as a wine-grape, has not yet become fairly tried; at least not in North Carolina. Of all the samples we have tasted, not one was the pure and original fermented juice of the grape, but, in every case, more or less sophisticated with sugar or honey, and not unfrequently with whiskey or brandy. It is usual to add three pounds of sugar to one gallon of the must, and then a little distilled spirits of some kind is poured into every barrel of wine, "to make it keep." Subjected to this treatment, the fluid degenerates into a sort of vinous grog, and its peculiar character as a wine is almost entirely lost.—Still, in spite of this, it has an aroma which is somewhat grateful. This mistake must be rectified, as a larger experience obtains among our vine dressers of the South; let us look into the matter a little closer.

That species of the muscadine, called the Scuppernong, is a very sweet grape, but sweet grapes are often wanting in saccharine matter. For a familiar instance, take the Catawba and Isabella grapes. To the taste the latter is by far the sweetest fruit; nevertheless, in making a sparkling wine, the Isabella needs a liberal

allowance of sugar, while the Catawba wine requires but little. McCulloch, in his treatise on wine-making, makes a very accurate distinction between this "sweet principle," and that which constitutes the "sugar," in fruit. The latter, the saccharine principle, is the element which, by the process of fermentation, is transmitted into alcohol, or *spirit* of wine, a certain percentage of which is necessary in all vinous fluids. This spirit of the wine is derived directly from the sugar of the grape. Now the difference between the sweet element and the saccharine element, is very clearly shown by Mr. McCulloch, who illustrates the subject by comparing molasses with refined sugar—the first being much the sweetest of the two to the taste, and yet not comparable to the latter in its proportion of pure saccharum. And, we may venture upon a theory, we should say "that the reason why sweet grapes make wine less sweet than those not so dulcet to the taste, lies in this:—that in the sweet grape the whole quantity of saccharum is absorbed in the production of alcohol, while in those more bounding in sugar, a *portion* only is transmuted into alcohol; the superfluous sugar remaining in undisturbed solution, and sweetening the wine, less or more, as may be."

Now, the Scuppernong grape produces a wine naturally hard and dry, with little to recommend it, but its peculiar aroma and flavor; and in consequence, the must is artificially sweetened to make it a marketable or a saleable commodity. So long as this method of treatment is practiced, neither it, nor any other American wine so used, can rank with any wine of Europe, except with the spurious productions of Cete, Lisbon, and Marseilles. The difficulty lies in this—our *vine growers* are afraid of a hard, dry wine,—because popular taste so far (especially in the rural districts) has been corrupted by the sweetened, sophisticated, poorest class of imported wines, the sweet malagas, and pure juice ports, that are current in every country town. Pure, wholesome wines never are, and never should be, sweet; a glass of surrup is no refreshment for a laborer, a miserable solace for the student, and a daily beverage for anybody, actually repulsive and as we are looking forward to the period when our wine shall be used, not only at weddings, merry-makings, balls and dinners, as the common drink for all classes of people

we should define now and here, that by *wines*, we mean the pure, fermented juice of the grape, without the admixture of anything else whatever.*

That the Scuppernong is a hard, dry wine, when made without sugar, is doubtless true; but the question is, "what character will this very wine assume when mellowed by age?—The Sercial, the king of Maderas, is a harsh, austere and repulsive drink, for the first few years, nor is it drinkable until age has corrected the acerbity of its temper—but what then? Then it becomes one of the most exquisite fluids in the world, and commands a price superior, in some instances, to any known wine, with the exception of Imperial Tokay. The real merits of the native wine of North Carolina, then, still need development; age and proper treatment must, in time, produce something; for the Scuppernong is not destitute of delicate aroma, an important quality, indeed. The mode of culture is peculiar—the vines (layers, not cuttings), are planted one hundred feet apart, the main branches have space to run fifty feet each way, at right angles from the centre, before meeting. Each vine may be represented thus + the laterals interlacing overhead and forming a canopy. The branches are never pruned, as it is said, "the vine would lead to death." Like the vines in Lombardy, these are *high trained* (*haut tige*), the lowest branches being eight feet above, and parallel with the ground. The yield is most abundant; single vine often bearing thousands of bunches, the berries small and but few to the bunch. Instances have been cited of single ones yielding enough grapes to make several barrels of wine, and covering two and a half acres of ground. We have no data to estimate the early produce of these vines, neither the quantity nor value; but we are well convinced that even now the statistics of grape culture in this State would present an imposing array of figures.

We have already seen specimens of native wines of Virginia, of excellent quality. The

"Be assured," says President Jefferson, in a letter to Maj. Adlum, April 20, 1810, "that there is nevertheless something of anything whatever, put into the good wines of France. I name that country, because I vouch the fact from the assurance to myself, of vignerons of all the best wine cantoned of that country, which I visited myself."

Catawba there is an abundant bearer, and the wine made from it is essentially different from that of Ohio. The climate of this State would seem to be peculiarly adapted for the purpose, and the wild and waste land might be turned to profitable account in the production of vines. To Virginia we are indebted for many species already popular, among which, we may instance "Norton's Seedling," the "Woodson, and "Cunningham." Here, too, the Bland grape grows abundantly, under the name of the Virginia Muscadell. In Maryland and Delaware, also, a variety of native grapes are cultivated, some of extraordinary productiveness. One vine, raised by Mr. Willis (near Baltimore), in 1832, yielded twenty-five thousand bunches; and in the following year, Messrs. C. M. Bromwell and R. Monkland certify, "that they counted upon it, fifty-four thousand four hundred and ninety bunches, omitting small and young ones, which would have added at least three thousand more."* Why Messrs. Bromwell and Monkland could not wait till the young ones grew up, is a question. To leave three thousand bunches out of the tally, because they were small and green, is an insult to Young America.

That part of the United States between the thirty-eighth and forty-fourth parallels of latitude, so far, is entitled to the supremacy in grape culture. Already the wines of Ohio and Missouri begin to supplant the imported Rhine and Champagne wines here, even at the same prices. Terraces rise above terraces on the hill sides of the Ohio river, and the red bluffs begin to disappear beneath masses of vine foliage and purple clusters of fruit. In Pennsylvania, at the end of the last century, an association was formed for the purpose of cultivating the grape, for wine, and vineyards were established at Spring Mill, under the superintendence of Mr. Peter Legoux. This was a failure:

* At Mr. Weller's vineyard, about eighteen miles from Wilmington, N. C., two gentlemen, (Mr. J. R. Reston and another) made an estimate of the produce of two vines. They laid out a square by measure, and picked the grapes within it, and by taking the number of square yards of the entire space occupied by the vines, they were able to tell from the quantity gathered in the square, that the two vines would yield one hundred and fifty barrels of grapes. Taking the weight of a barrel at 200 lbs. this would amount to 15,000 pounds to each vine, or *seven and a half tons!*

foreign wines were tried and abandoned, and finally the wild grape called the Schuylkill Muscadell met with temporary success. It was only *pro tempore*, however, and the failure of that vineyard threw a broad-brimmed shadow over similar enterprises thenceforward. But the vine begins to flourish again in the land of drab, and we presume by and by Pennsylvania will not behind the rest of the middle States.

In our own State there is already much wine made from the Isabella grape—in Orange county; in Columbia county, among the Shakers; and on the banks of the Hudson, in the neighborhood of the city. We have tried many of these wines, and although want of experience, and improper treatment is manifest, yet there is sufficient merit in them, to insure us in the prediction "that the grape culture will soon prove to be one of the most valuable fields for enterprise ever presented to the people of New York." Here is the soil, here is the climate for the Isabella; as Ohio is to the Catawba, so will this State be to this grape.—Here, too, is the market, so that the cost of transportation will be trifling, and the day may not be far off when ships shall lay beside the rich vineyards on the Hudson's banks, to receive the golden freightage for distant Europe.

In New Jersey the vine has been cultivated for many years, especially in the neighborhood of Burlington. The soil of some parts of this State is peculiarly adapted for the purpose, and we may hope hereafter for better wines than those she now furnishes under a variety of foreign brands. Still further west we find that Indiana, Illinois and Michigan are improving the hint given by Ohio, in fact, Indiana must be recognized as one of the pioneers; for, in the beginning of this century, the most considerable quantity of native wine made in the United States was from the Cape or Schuylkill grape of every, Switzerland county, Indiana. Missouri already ventures to contest the palm with Ohio. In 1852 the vineyard at Hermann embraced some forty or fifty acres only, and yet this year we are informed that it has produced one hundred and twenty thousand gallons of wine. Many other vineyards are in the interior of this thriving State. At the Crystal Palace Exhibition, in New York, six prizes were awarded to vine growers of Missouri for samples of supe-

rior native wines, both Isabella and Catawba still and sparkling. The last grape is the favorite there, as it is also in Kentucky and Tennessee. In St. Louis, the native wines are idly supplanting the foreign, especially sparkling kinds: at the hotels there the majority of wines on the tables are of home production.

Now, good friend, if you are tired with long itinerancy, take the cool, green glass reach yonder long-necked amber-colored, Irish looking flask, if you be a hock drinker; if not, let us cut the cords around this cork, for the luscious fluid confined within fair, round bottle, hath that propulsive it must needs be imprisoned, and held within atures of flax and wire. You will try the Ah! you like it, do you? Compare it with this Rudesheimer, the "Berg" of 1844 not the aroma of the last the most agreeable. You think not? That smack of the lips loudly in favor of the other; and what you of its farewell taste—the *arrier* go "Fine," you say, "and delicate, and the mouth sweet and cool." "Which prefer?" "The first," you say? Bra Catawba! Good friend, surprised, hold his empty glass, and says, "You don't. We fill it, and repeat that it is true. friend much animated, "Why, when I Cologne I paid twenty florins for a bottle Metternich Schloss Johannesberger and it was an old wine, and had the arms of a prince on the seal, yet, to my taste, it appears even better than that." We set fair champagne glasses, and cut the stopper of a bottle of different shape. "Try this friend tastes." By the moist, purple of Bacchus's great plant, this is delicious. What is it? We answer, "It is a good friend, watching the sparkle the glass up to his eye—"Not our Isabella." We reply in the affirmative, "stand the name of roses and raspberries, we aged?" We answer, "Cincinnati." We respond, "The wine of the city of Cincinnati is a fine one, and the grapes grown within the city and the grapes grown within the city have been celebrated western town. friend, anxiously." Proceed with the

To Ohio the grape belongs, for giving a pure, native wine, of great merit, careful cultivation of the fruit,

us management of the fermented juice afterwards, is always necessary in the production of a fine wine; and this union of scientific culture with scientific treatment had never been brought to perfection until the vine dressers of Ohio set the example. And first and foremost among these stands Nicholas Longworth, as he is familiarly termed there, "*The father of grape culture in the west.*" It is not alone by years of patient investigation; it is not alone the success which has followed those efforts; it was not by the vast variety of experiments he has tried, and by the untiring energy which, in spite of numberless disappointments, still revived and triumphed over every defeat, that he has won this title from his fellow citizens. It was because every effort and every experiment was for the benefit of all; because, through him, the success of grape culture in this country was paramount to personal considerations; because, by every means, he spread as fully as possible the results of his investigations and labors, so that the young vine-planter to-day might stand upon even ground with himself, the veteran of nearly half a century's experience. Adlum and Dufour predicted the success of grape culture in the United States, and Longworth, their cotemporary, lived to see the prediction verified, and mainly by his personal exertions. Would that all patriots were rewarded.

The two principal wine grapes of Ohio are the Catawba and Isabella; the first, however, in the proportion of twenty to one. Both are natives of North Carolina. The first was found and noticed merely as a wild grape, in the year 1802, by Colonel Murray and others, in Buncombe county, N. C.* There it reposed for upwards of twenty years without attracting attention, and so would have remained probably until now, had not its merits been discovered by Major John Adlum, of Georgetown, N. C., or about the year 1826. Major Adlum, an officer of the Revolution, formerly surveyor-general of Pennsylvania, was a great cultivator of the grape, and devoted the last years of his life to that purpose. In the course of his experiments with native vines, he found this one in the garden of a German at Georgetown, and after a fair trial, was so convinced of its value as a wine grape, that he sent some of the

slips to Mr. Longworth, with a letter, saying, "I have done my country a greater service by introducing this grape to public notice than I would have done if I had paid the national debt." Adlum paid the debt of nature soon after, but the slips fell into good hands. For nearly thirty years, with patient perseverance these grapes were nurtured by Mr. Longworth, until the hour has arrived when the prophecy of Major Adlum seems certain of fulfilment.—Thirty years of patient labor; thirty years of unflinching faith; thirty years of man's life; what a span it is! stretching from hopeful youth to hoary age; a long while, my good friend, to look forward to, a long way to look back. In the thirty years to come we may have occasion to thank these pioneers—we may see greater results than either of them dreamed of.

The Isabella grape was first introduced to notice by Mr. Geo. Gibbs, of Brooklyn, L. I. The slips were brought from North Carolina by Mrs. Gibbs, his wife, and the vine, in compliment to her, was named the "Isabella." Originally it was called the "Laspeyre grape," Mr. Bernard Laspeyre, who resided near Wilmington, N. C., having the parent vine from whence these slips were derived. By him it was supposed to be a foreign grape, but all scientific writers on vines in this country assert that the species, in a wild state, is quite common, and is unquestionably an indigenous production of the United States. From these two grapes the best wines are made in Ohio. We may also mention that the "Herbemont," another variety of "the natives," produces an extraordinary fine wine, the flavor being like the purest Amontillado, and essentially different from the other two. Heretofore the demand for home consumption has prevented the shipment of these wines east of the mountains; but, by the increase of vineyards in Ohio and elsewhere, a limited quantity is now being sent to this city and Philadelphia.*

An estimate of the entire wine crop of Ohio has not yet been made. Within a circle of 20 miles around Cincinnati there were raised in

| | | | |
|-------------------------------|-----------|---------|----------|
| 1848, | - - - - - | 84,000 | gallons. |
| 1849, (the worst year for rot | - - - - - | | |
| ever known there), | - - - - - | 36,000 | " |
| 1852, | - - - - - | 125,000 | " |
| 1853, | - - - - - | 340,000 | " |

* The Isabella and Catawba wines of N. Longworth, were first introduced in New York in May, 1852, by the editor.

This year,† on account of the severe cold weather in the spring, and the heavy, long, continuous rains, the crop will be a short one; but new vineyards are multiplying, and, if this year does not promise so well as the last, yet, from the increased number of cultivators, there must be a continually increasing yield of wine, as there certainly is a constantly increasing demand for it.

In comparing those wines with those of Europe, we must bear in mind that they are distinct in flavor from any or all of them. Sparkling Catawba is not Champagne, nor can Isabella be compared with another wine known in the world. It is a peculiarity of these wines that no spurious compound can be made to imitate them, and in purity and delicacy, there is no known wine to equal them. From the experiments made by eminent chemists, we find the percentage of alcohol ranks thus, according to Brande, and others:

| | | | | | |
|-----------------------|---|---|---|---|-------|
| Madeiras, | - | - | - | - | 22.27 |
| Ports, | - | - | - | - | 22.96 |
| Sherries, | - | - | - | - | 19.17 |
| Clarets, | - | - | - | - | 17.11 |
| Sauternes, | - | - | - | - | 14.22 |
| Burgundies, | - | - | - | - | 14.57 |
| Hock and Rhine Wines, | - | - | - | - | 12.08 |
| Champagne, | - | - | - | - | 12.01 |
| Tokay, | - | - | - | - | 9.85 |

Thus, it will be seen, that the most expensive wine in Europe, the "Tokay," is also the lowest in alcoholic per centage. But, we find, by the analysis of our good friend Dr. Chilton, that "Still Catawba" shows a per centage of 9.50 only, being, in fact, the lowest per cent. of spirit to be found in any wine in the world.

We could pursue this subject for a page or two more, but the wine tide is at ebb in the bottle. We did intend to speak of the late Col. Alden Spooner, formerly editor, in fact first editor, of the *Long Island Star*; a man of many virtues, and one who was zealous in introducing the grape in the Empire State. We did intend to speak of a gentleman of Ohio, Mr. Robert Buchanan, to whom we are indebted for much information on this subject. We did intend to speak of other eminent vine-growers, but there is a time to squeeze grapes, and a time to squeeze hands, and so, reader,—*vale!*

† 1854. The crop was a short one.

Planting a Lawn.

After what was said in a former paper on the making of lawns, it may be presumed that the ground is in a proper state for receiving the trees to be planted in it. Its low, wet points have been drained, it has been plowed deeply, trenched with the spade, and suitably enriched. The foundation work is done.

The next point requiring attention is the formation of a plan according to which the trees, shrubs and flowers shall be arranged. It is not enough to find out how many trees the ground will hold, and then to plant them in rows like an orchard. Nor is it enough to set them here and there without any design whatever, taking it for granted that, because formal lines are avoided, the scene will therefore appear natural and graceful. Certain designs are more pleasing than others; and there is, probably, one design better suited to each particular scene than any other. The planter should aim to find out what that is, and then adopt it as his own.

It is a generally admitted principle, that all offensive objects within view from the lawn should be concealed. It may be a barn or out-house; it may be the rear premises of a slovenly neighbor. These should be hidden by masses of trees. Fences should not appear in sight from the lawn. They are seldom handsome objects in themselves, and are suggestive of limitation and restraint. They continually remind one of the comparative prettiness of the beautiful scene before him. Let those limits be kept out of view, leaving the imagination to picture an indefinite scene of delight, of which the lawn is the centre. Fences may be concealed by hedges and trees, not set in stiff rows, and so suggestive of what it is desired to keep out of sight, but diverging here and there in the premises and then retiring towards the fence, in easy flowing lines. This boundary belt should be composed largely of evergreens, because they furnish a protection in winter, and more effectually than other trees, conceal fences at all seasons of the year. Large trees should be in the rear, smaller trees and shrubs next to the lawn and running out here and there on its surface.

The writer of this once visited a country residence on Staten Island, where this plan had been admirably executed. Here, there were two or three lawns, separated from each other by shrubbery; but the outer boundaries of each were

planted with masses of trees and shrubs, shutting out the roads and fences near at hand, but preserving fine views of the bay and other scenery about New York. In the back-ground of the principal lawn were pines, cedars and hemlocks, intermingled with groups of maples, among which the dark foliage of the Norway was conspicuous; here and there tulip-trees and magnolias, flaunting their large, glossy leaves; and in another place were several varieties of the elm. In front of those were smaller trees, such as the mountain-ash, flibut, dogwood, and virgilia lutea. Before these again, were shrubs of high and low degree, running out at intervals into the lawn, and scattering their blossoms on the velvet turf. In one corner, a large, weeping willow, forgetful of all rules, had thrown out its long, pendulous branches over smaller trees and shrubs, and trailed them on the grass of the lawn, forming a picture of luxuriance and gracefulness which the visitor could not soon forget.

But, it may be asked, is not this method of planting the lawn's boundaries somewhat unneighborly and exclusive? May not the spectator from without be permitted a glimpse of your smooth sward, your rare trees and flowers? Yes, certainly. A lawn should be somewhat screened from the gaze of street goers, so that the family may make it a place of frequent and unrestrained resort. "We do not entirely feel that to be our own," said Downing, "which is indiscriminately enjoyed by every passer-by." And it should be remembered that no country residence is so perfect in all its parts, that a finer effect is not given to some portions if they are partially concealed, the imagination of the beholder being left to conceive something better of what his eyes are not permitted to see. While we say this, it should also be observed that the proprietor of a fine place owes something to the public. There are many persons of rural tastes who have not the means of gratifying such inclinations in lawns of their own, who would, nevertheless, highly enjoy a glimpse of such scenes from the road-side. The sight of well kept grounds tends to inspire a public taste for rural improvements. A truly benevolent man will desire to afford such gratification, and to promote such refinement of the public taste. We therefore hold that while a lawn should be partially screened from the dust and publicity of the highway, it should

also be open at certain points to easy observations from without.

In determining what trees to plant on the lawn, and where they should stand, much will depend on the size of the grounds. If large, the trees may be of the larger sorts, and groups of them may be introduced. But most lawns in this country, are small, and masses of trees must be confined to the boundaries. And as the beauty of a lawn consists chiefly in its broad reaches of smooth, unbroken turf, it is not advisable to occupy the space with numerous trees. The lawn is generally a highly cultivated scene near the dwelling: the trees selected should therefore, be of the finer sorts, with neat bark and pleasing foliage. Where the space will permit, some should be allowed to grow without pruning, from the ground to the top, forming a well-rounded mass of waving foliage. Evergreens should always be treated in this way, having no gaps in their outlines from the branches which sweep the turf up to their topmost comes.

In planting shrubs, some specimens of the fine form and foliage may occasionally be planted singly, along the borders of walks; but as a general rule a finer effect is produced by setting them in groups, the highest in the center, and lower ones around them. In grouping, regard may sometimes be had to shades of color. For example, a striking scene may be produced by mingling the dark green of the European Strawberry tree with the gray hues of the Missouri Silver tree, and the purple of the Purple Berry, the whole softened by blending the lighter green of other shrubs with them. A very odd scene may be produced by grouping the variegated-leaved shrubs, such as the variegated Syringa, Euonymus, dog-wood, &c.

A lawn is not complete without its flowering plants. It should not be cut up with large beds, and they crowded with straggling, ill-assorted specimens. The best mode is to cut out in the grass a few circular or other graceful figures, near the walks, and to fill them with verbenas, geraniums, petunias, perpetual roses, and other plants of neat habit, and which furnish a constant bloom throughout the summer. It is an excellent plan to occupy a portion of these beds with early flowering bulbs, which can be removed after their period of bloom, or their tops can be cut off and the space covered again with bedding plants. In this way a succession of flowers can be kept up the whole season.

A. D. G.

From the Prairie Farmer.

Influence of Horticulture.

BY A. J. DOWNING.

The multiplication of Horticultural Societies is taking place so rapidly of late, in various parts of the country, as to lead one to reflect somewhat on their influence, and that of the art they foster, upon the character of our people.

Most persons, no doubt, look upon them as performing a work of some usefulness and elegance, by promoting the culture of fruits and flowers, and introducing to all parts of the country the finer species of vegetable productions. In other words, they are thought to add very considerably to the amount of physical gratifications which every American citizen endeavors, and has a right to endeavor, to assemble around him.

Granting all the foregoing, we are inclined to claim also, for horticultural pursuits, a political and moral influence vastly more significant and important than the mere gratification of the senses. We think, then, in a few words, that horticulture and its kindred arts, tend strongly to fix the habits, and elevate the character, of our whole rural population.

One does not need to be much of a philosopher to remark that one of the most striking of our national traits, is the SPIRIT OF UNREST. It is the grand energentic element which leads us to clear vast forests, and settle new States, with a rapidity unparalleled in the world's history; the spirit, possessed with which, our yet comparatively scanty people do not find elbow-room enough in a territory already in their possession, and vast enough to hold the greatest of ancient empires; which drives the emigrant's wagon across vast sandy deserts to California, and over Rocky Mountains to Oregon and the Pacific; which builds up a great State like Ohio in 30 years so populous, civilized and productive, that the bare recital of its growth sounds like a genuine miracle to European ears; and which overruns and takes possession of a whole empire, like that of Mexico, while the cabinets of old monarchies are debating whether or not it is necessary to interfere and restore the balance of power in the new world as in the old.

This is the grand exciting side of the picture. Turn it in another light, and study it and the effect is by no means so agreeable to the reflective mind. The *spirit of unrest*, fol-

lowed into the bosom of society, makes of man a feverish being, in whose Tantalus' cup *repose* is the unattainable drop. Unable to take root anywhere, he leads, socially and physically, the uncertain life of a tree transplanted from place to place, and shifted to a different soil every season.

It has been shrewdly said that what qualities we do not possess, are always in our mouths. Our countrymen, it seems to us, are fonder of no one Anglo-Saxon word than the term *settle*. It was the great object of our forefathers to find a proper spot to settle. Every year, large numbers of our population from the older States go west to settle; while those already west, *pull up*, with a kind of desperate joy, their yet new-set *stakes*, and go farther west to settle again. So truly national is the word, that all the business of the country, from State debts to the products of a "true farm" are not satisfactorily adjusted till they are "settled;" and no sooner is a passenger fairly on board one of our river steamers, than he is politely and emphatically invited by a sable representative of its executive power, to "call at the captain's office *and settle!*"

Yet, as a people, we are never settled. It is one of the first points that strikes a citizen of the old world, where something of the dignity of repose, as well as the value of action, enters into their ideal of life. De Tocqueville says, in speaking of our national trait:

"At first sight, there is something surprising in this strange unrest of so many happy men, restless in the midst of abundance. The spectacle itself is, however, as old as the world. The novelty is to see a *whole people* furnish an exemplification of it.

"In the United States a man builds a house to spend his latter years in, and sells it before the roof is on; he brings a field into tillage, and leaves other men to gather the crops; he embraces a profession, and gives it up; he settles in a place, which he soon after leaves, in order to carry his changeable longings elsewhere. If his private affairs leave him any leisure he instantly plunges into the vortex of politics; and if at the end of a year of unremitting labor, he finds he has a few days' vacation, his eager curiosity whirls him over the vast extent of the United States, and he will travel fifteen hundred miles in a few days, to shake off his happiness."

Much as we admire the energy of our people we value no less the love of order, the obedience to law, the security and repose of society, the love of home, and the partiality to localities endeared by birth or association, of which it is in some degree the antagonist. And we are therefore deeply convinced that whatever tends, without checking due energy of character, but to develope along with it certain virtues that will keep it within due bounds, may be looked upon as a boon to the nation.

Now the difference between the son of Ishmael, who lives in tents, and that man who has the strongest attachment to the home of his fathers, is, in the beginning, one mainly of outward circumstances. He whose sole property is a tent and a camel, whose ties to one spot are no stronger than the cords which confine his habitation to the sandy floor of the desert, who can break up his encampment at an hour's notice, and choose a new and equally agreeable site, fifty miles distant, the next day—such a person is very little likely to become much more strongly attached to any one spot of earth than another.

The condition of a western emigrant is not greatly dissimilar. That long covered wagon, which is the Noah's ark of his preservation, is also the concrete essence of house and home to him. He emigrates; he "squats" he "locates," but before he can be fairly said to have a fixed home, the spirit of unrest besets him; he sells his "diggins" to some less adventurous pioneer, and *tackling* the wagon of the wilderness, migrates once more.

It must not be supposed, large as is the infusion of restlessness in our people that there are not also large exceptions to the general rule. Else there would never be growing villages and prosperous towns. Nay, it cannot be overlooked by a careful observer, that the tendency "to settle" is slowly but gradually on the increase, and that there is, in all the older portions of the country, growing evidence that the Anglo-Saxon love of home is gradually developing itself out of the Anglo-American love of change.

It is not difficult to see how Horticulture contributes to the development of local attachments. In it lies the most powerful *philtre* that civilized man has yet found to charm him to one spot of earth. It transforms what is only a tame meadow and a bleak aspect, into an Eden of

interest and delights. It makes all the difference between "Araby the blest," and a piece barren. It gives a bit of soil, too insignificant to find a place in the geography of the earth's surface, such an importance in the eyes of its possessor, that he finds it more attractive than countless acres of unknown and unexplored "teritory." In other words it contains the mind and soul of the man, materialized in many of the fairest and richest forms of nature, so that he looks upon it as tearing himself up, root and branch, to ask him to move a mile to the right or the left. Do we need to say more, to prove that it is the panacea that really "settles" mankind?

It is not, therefore, without much pleasurable emotion, that we have had notice lately of the formation of five new Horticultural Societies, the last at St. Louis, and most of them west of the Alleghanies. Whoever lives to see the end of the next cycle of our race, will see the great valleys of the West the garden of the world; and we watch with interest the first development, in the midst of the busy fermentation of its active masses, of that beautiful and quiet spirit, of the joint culture of the earth and the heart, that is destined to give a tone to the future character of its untold millions.

The increased love of home and the garden, in the older States, is a matter of every-day remark; and it is not a little curious, that just in proportion to the intelligence and *settled* character of its population, is the amount of interest manifested in horticulture. Thus, the three most settled of the original States we suppose to be Massachusetts, New York and Pennsylvania; and in these States horticulture is more eagerly pursued than in any others. The first named State has now seven horticultural societies; the second, seven; the third, three. Following out the comparison in the cities, we should say that Boston had the most settled population, Philadelphia the next, and New York the least so of any city in the Union; and it is well known that the horticultural society of Boston is at this moment the most energetic one in the country, and that it is stimulated by the interest excited by societies in all its neighboring towns. The Philadelphia society is exceedingly prosperous; while in New York, we regret to say, that the numerous efforts that have been made to estab-

lish firmly a society of this kind have not, up to this time, resulted in any success whatever. Its mighty tide of people is as yet too much possessed with the spirit of business and of unrest.

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To Dissect the Atmosphere.

The atmosphere in which we live, that supports all animal life in respiration, and all the furnaces, fires and decaying organic matter on the globe in combustion—fast and slow—is stated to be principally composed of two gases. How do we know this? By performing the following experiment: Take a glass vessel containing a certain amount of water, in which is placed a cork to float a piece of phosphorus, on its surface; ignite the phosphorus, then place a glass globe over it, (and into the other vessel, which must be wider than the globe.) White vapors will soon arise from the burning phosphorus, which at first burns brightly, but soon grows fainter and fainter, then goes out entirely. If when the phosphorus commenced to burn, the glass globe contained five pints of air, it will be found that it only contains four pints after it is extinguished. If a lighted candle be now placed in the four remaining pints of air in the globe it will not burn, but it would have done so freely before the phosphorus was consumed in the five pints of air. This shows that the properties of the air in the globe have become entirely changed by the act of combustion with the phosphorus, and that the gas which supported combustion—to employ a common term—has been all “used up.” The gas which supports combustion is oxygen and the experiment described, by which one part of oxygen has been removed out of five volumes of air proves that the proportion of oxygen in the atmosphere is only as one to four of another gas, which cannot and does not support combustion.

The remaining four volumes or pints of air left in the globe is nitrogen, which amounts to eighty in every hundred parts of the atmosphere. (There is also a little carbonic acid gas in the air—one part to every two thousand.)

The regular proportions of oxygen and nitrogen described in the atmosphere, taken from any part of the globe have been found to be constant; they are permanently elastic gases,

and simple bodies. In the atmosphere they are mechanically, not chemically combined.

By burning phosphorus in the manner described we obtain nitrogen gas, which when washed, by agitating it with water in a glass vessel, may be employed for an elastic gas cushion or spring, in a vessel containing mercury, or any metal where atmospheric air cannot be employed, because of the oxygen it contains having such an affinity for the metals as to rust them and destroy their properties.—Nitrogen is transparent, has no taste or smell, is a perfect non-supporter of combustion, and exhibits no tendency to combine with other substances. Although four volumes of nitrogen is inhaled into the lungs for every one of oxygen during the act of respiration, it produces no effect upon the human system.

At one period it was taught and believed by chemists that oxygen was the sole cause of combustion—that when it was not present combustion could not take place. This is true so far as it relates to combustion in the atmosphere; but some bodies will burn without oxygen being present. Thus iron and sulphur, when heated, will combine with much light and heat; and phosphorus, when introduced into chlorine gas, will take fire and burn, combining with the gas. The true definition of combustion is, “chemical combination attended with light and heat.”

Although nitrogen is termed the *most inert* of gases, because it cannot be made to unite directly with any element and only forms combinations when one or both elements are in the nascent state, yet it plays a most important part in the animal, vegetable and mineral kingdoms. It might be readily supposed that as oxygen is *vital air*, and as it alone performs a part in the act of breathing—the nitrogen being inert—that the greater the quantity of this gas mixed with nitrogen the more healthy it would be for respiration; it is not so, however. It is remarkable that the most powerful of acids, aquafortis, is composed of five parts of oxygen (*vital air*) and only one of nitrogen.—*Scientific American*.

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Blackberries are very beneficial in cases of dysentery. The berries are healthful eating. Tea made of the roots and leaves is good; and syrup made from the berries excellent.

Artificial Propagation of Fish.

This subject is attracting considerable attention in our country at present. In 1856, the Legislature of Massachusetts adopted a resolution, under which commissioners were appointed to examine into it and report such facts as they could obtain, to the next General Court. Three commissioners were selected—R. A. Chapman, Henry Wheatland, and N. E. Atwood—their report has been published, and is now before us. Mr. Atwood, who is a practical fisherman, and also a learned ichthyologist, was intrusted with the charge of making experiments and observations and confined his attention to trout. His experiments were conducted at Sandwich, but they turned out failures. He obtained 15,000 eggs, and they all rotted; this he attributed to the character of the water in which the experiments were conducted.—November is the spawning season of trout and salmon, during which period, they are very poor, and should not be allowed to be caught or sold.

Although the experiments with the eggs of trout failed with Mr. Atwood, the commissioners believe that such fish may be profitably cultivated. They state it as their belief that there are many farms in the hilly regions of Massachusetts, containing trout streams, that, with little pains, might be made to yield a greater income than the land itself. Much might be done to increase their value without resorting to artificial breeding. The preparation of suitable ponds or pools of deep water and gravelly beds, suitable for spawning, with guards to prevent the destruction of fish by freshets, would greatly increase the stock. "But the process of artificial propagation," says the report, "is so simple and easy that when trout become an object of care, we cannot doubt they will be multiplied and protected by this method.—Many millions of fine trout may thus be produced annually, and what is now regarded as a mere temptation to waste time, may be made not only to minister to luxury and health, but become an important branch of productive industry. In addition to this, fish ponds with borders of trees and shrubbery, add to the beauty of a landscape, and increase the value of a farm."

It is stated that in England, salmon have been propagated with success, and that of

300,000 of their spawn 275,000 were hatched artificially.

It is our opinion that this subject deserves great attention, because in many of our creeks and rivers that once teemed with the finest salmon, not one is now caught. When the first settlers came to our shores, they found salmon in every running brook having easy access to the sea; now such fish are alone obtained from the "Northern Provinces."

But there is one feature connected with fish culture, which we wish to impress indelibly upon the minds of those who wish to re-stock our streams with an abundance of good fish; that is, they must keep the streams clean and pure, if they expect to succeed.

It is true that salmon and other fish have been banished from rivers and creeks in which they once abounded; but this was not owing to the great depredations of fishermen, as has generally been supposed.

The erection of saw mills on creeks and rivers destroyed the spawn of both salmon and trout, and it has been found that the former fish have been banished from all rivers on which chemical works have been established. They love clear running streams of water, and flee from saw-dust and the drainage of chemical works in rivers, as people do from a pestilence—they are a sensible fish.

Scientific American.

From the Scientific American.

Ants—Their Senses and Habits.

"Go to the Ant, thou sluggard," is advice not only against sluggishness, but is applicable to other things, particularly as it relates to what may be accomplished by the combination of individuals under great disadvantages.

The only medium which ants possess for acquiring and imparting information appears to be their antennae, or feelers, having neither of the two most useful senses for learning which larger animals possess—seeing nor hearing—and if they have the sense of smelling it is very limited. I have placed sugar within half an inch of their trail to a sugar barrel, and they would pass without noticing it until one of them accidentally strayed within touch of it, when others would soon follow by feeling their way. I have placed a thin strip of wood not wider than the length of an ant, across their

trail, and it embarrassed them; they would turn towards each end of it and return, until some bold fellow ventured across it, when the rest followed. I caught a number of them on a chip with sugar on it, placed near their trail, and gently removed it to the opposite side, about a foot off; when they finished their repast they went feeling around in every direction, and often returned even when they had got within two inches of the great thoroughfare where the multitude was passing; they neither saw nor heard them; but as soon as they struck the trail they took the homeward course, and ceased to return.

The above experiments were made with the small red ants. When they first discovered the sugar those returning from it would extend their antennae to those they met, make one or two short jumps, and the latter would quicken their pace, as if satisfied with the information.

Whenever ants discover the trail of another tribe in rather suspicious proximity to their own dwellings, if they are of equal size with themselves, they sally out in a body to attack them; but if they are a size or two smaller—the very small ones they never notice—one or two guards take possession of the trail, and cross and recross it with the most unwearied diligence for hours and days together, and wo to all they catch. But scores will pass within one or two inches of a guard without either being aware of the other's presence.

Notwithstanding the want of these senses a community of large ants will explore an area of ten to fifteen acres, and if one of them makes a discovery of food, intelligence of it will be circulated so rapidly that they will form a trail to it in one night, though it be one hundred and fifty yards off. Their sense of feeling is extremely delicate, for by it they can spread an alarm, distinguish a friend from a foe, follow a trail over a smooth floor, and convey any intelligence which may be necessary for them to know. In their wars they are very destructive, and this appears to be a provision of nature to prevent their increase. Two ants of about equal size will fight to the death without yielding. In a regular battle between two tribes it is their custom to carry off the dead and wounded from the field.

H. POLLARD.

Lexington, Mo., June, 1857.

[Of all insects, ants seem to have the most perfect powers of communicating with each other, yet they emit no sound, like bees, but only use signs and motions, employing their antennae for such purposes; and, as our correspondent states, if they have the power of vision, it must be very feeble. Still, "if they see not" it is not for want of eyes—these they possess.—*Scientific American*.

Astonishing Feat of a House Spider.

It would seem that there is no living thing so obnoxious as not to find admirers. What creatures so repulsive as rats and spiders? Yet the London Quarterly finds something beautiful and even loveable in the former, and Dr. Asa Fitch, in Harper's Monthly, labors to show that the "latter delicate little objects" are worthy of all praise. In support of these views he tells the following curious story concerning a heroic spider who captured a snake. The affair came off last summer in the store of Charles Cook, in the village of Havana, Chemung county, N. Y., and is attested by the Hon. A. B. Dickinson of Corning, "who himself witnessed the phenomenon, as did more than a hundred others present."

An ordinary looking spider of a dark color, in body not larger than that of a common house fly, had taken up its residence, it appears, on the under side of a shelf beneath the counter of Mr. Cook's store. What may we suppose was the surprise and consternation of this little animal on discovering a snake, about a foot long, selecting for its abode the floor underneath, only two or three spans distant from its nest? It was a common silk snake, which, perhaps, had been brought into the store unseen in a quantity of saw-dust with which the floor has been recently "carpeted." The spider was well aware, no doubt, that it would inevitably fall a prey to this horrid monster the first time it should incautiously venture within its reach. We should expect that to avoid such a frightful doom, it would forsake its present abode, and seek a more secure retreat elsewhere. But it is not improbable that a brood of its eggs or young was secreted near the spot, which the parent foresaw would fall a prey to this monster if they were abandoned by their natural guardian and protector. We

can conceive of no other motive which should have induced the spider so pertinaciously to remain and defend that particular spot, at the imminent risk of her own life, when she could so easily have fled and established herself in some secure corner elsewhere. But how, we may well ask, was it possible for such a weak tender little creature to combat such a powerful mail-clad giant? Her ordinary resort, that of fettering and binding her victim, by throwing her threads of cobwebs around it, it is plain would be of no more avail here than the cords upon the limbs of the unshorn Sampson. * *

By what artifice the spider was able, in the first of its attack to accomplish what it did, we can only conjecture, as its work was not discovered until the most difficult and daring part of its feat had been performed. When first seen, it had placed a loop around the neck of the serpent, from the top of which a single thread was carried upward and attached to the under side of the shelf, whereby the head of the serpent was drawn up about two inches from the floor. The snake was moving around, and around incessantly, in a circle as large as its tether would allow—wholly unable to get its head down to the floor, or to withdraw it from the noose; while the heroic little spider, exulting no doubt in the success of its exploit, which was now sure beyond a peradventure, was ever and anon passing down to the loop and up to the shelf, adding thereby an additional strand to the thread, each of which new strands being tightly drawn, elevated the head of the snake gradually more and more.

But the most curious and skillful part of the performance is yet to be told. When it was in the act of running down the thread to the loop the reader will perceive it was possible for the snake, by turning his head vertically upward, to snap at and seize the spider in his mouth.—This had, no doubt, been repeatedly attempted in the earlier part of the conflict; but, instead of catching the spider, his snakeship had only caught himself in an additional trap. The spider, probably by watching each opportunity when the mouth of the snake had been turned towards her, adroitly, with her hind legs, as when throwing a thread around a fly, had thrown one thread after another over the mouth of the snake, so that he was now perfectly muzzled, by a series of threads placed over it vertically, and these were held from

being pushed assunder by another series of threads placed horizontally, as my informant states he particularly observed. No muzzle or wicker work for the mouth of an animal could be woven with more artistic regularity and perfection; and the snake occasionally making a desperate attempt to open his mouth, would merely put these threads upon a stretch.

The snake continued his gyrations, his gait becoming more slow, however, from weakness and fatigue; and the spider continued to move down and up the cord, gradually shortening it, until at last, when drawn up so far that only two or three inches of the end of his tail touched the floor, the snake expired, about six days after he was first discovered.

A more heroic feat than that which this little spider performed is probably nowhere upon record—a snake a foot in length hung by a common house spider! Truly, the race is not to the swift, nor the battle to the strong! And this phenomenon may serve to indicate to us that the intelligence with which the Creator has endowed the humblest, feeblest of his creatures, is ample for enabling them to triumph in any emergency in which He places them, if they but exercise the faculty He has given them. It is only the slothful, cowardly, timorous, that fail, and they fail not so much before their enemies as before their own supineness.

Regulations

Of the fifth N. C. State Fair, to be held in Raleigh, commencing on the 20th Oct., 1827.

1. All members of the N. C. State Agricultural Society will be furnished with a badge of membership, upon payment of the annual tax of \$2, and will be required to wear the same during the Fair. This badge will admit the ladies of his family and children under 18 years of age, during the fair.

2. Members of the Society and families alone will be admitted on Tuesday, the day for examination and awards by the judges. All competitors are expected to be present. The public will be admitted on and after Wednesday, at 10 o'clock. Price of admission 25 cents. Children and servants 12½ cents. Clergymen, Editors and pupils of charitable Institutions admitted free.

3. Agricultural Societies and Institution

from other States are invited to send Delegates. Such Delegates will be presented with a complimentary card.

4. All exhibitors who intend to compete for the premiums of the Society, must become members of the same, and have their articles on the ground and entered at the Secretary's Office in Reception Hall, at or before 5 o'clock on Monday evening, Oct. 19th, without fail, so that they may be arranged in their respective departments, and in readiness for examination by the Judges on Tuesday morning at 10 o'clock.

5. The regulations of the Society must be strictly observed by exhibitors, otherwise the Society will not be responsible for the omission of any article or animal not entered under its rules.

6. No article or animal entered for a premium can be removed or taken away before the close of the exhibition. No premium will be paid on articles or animals removed in violation of this rule.

7. All articles and animals entered for exhibition must have cards attached with the number as entered at the Secretary's Office; and exhibitors in all cases must obtain their cards previous to placing their articles or animals on the Fair grounds.

8. Those who wish to offer animals or articles for sale during the Fair must notify the Secretary of such intention at the time of entry.

9. The Executive Committee will employ a day and night guard, and will use all reasonable precaution in their power, for the safe preservation of all articles and stock on exhibition, but will not be responsible for loss or damage that may occur. Exhibitors must give attention to their articles or animals during the Fair, and at the close of the exhibition attend to their removal.

10. The awarding committee or judges, selected for the next Fair, are earnestly requested to report themselves to the chairman of the Executive Committee at Reception Hall, upon the grounds of the Society, on Tuesday morning, the 20th day of October, 1857.

11. In no case can the Judges award special or discretionary premiums; but will recommend to the Executive Committee any articles in their class which they may deem worthy of

special notice and for which a premium has not been offered.

12. The Judges on animals will have regard to the symmetry, early maturing, thorough breeding, and characteristics of the breeds which they judge. They will make proper allowances for the age, feeding and condition of the animals, especially in the breeding classes, and will not give encouragement to over fed animals.

13. No stock of inferior quality will be admitted within the grounds; a committee will be appointed to rule out all below a medium grade.

14. Animals to which premiums have been awarded must be paraded around the track, that visitors may see the prize animals.

15. No person will be allowed to interfere with the Judges during their adjudications.

16. The several Superintending Committees will give particular direction to all articles in their departments, and see that all are arranged in the best order possible to lessen and facilitate the labors of the Judges in their examination.

17. The Superintendents will attend each set of Judges in their respective departments and point out the different articles or animals to be examined, will attach prize cards to the articles, or flags to the successful animals after the Judges' reports have been made up and delivered to the chairman of the Executive Committee.

18. The judges will withhold premiums on animals or articles in their opinion not worthy; though there be no competition.

19. Premiums of \$25, and upwards will be awarded in *Plate*, unless the person to whom the award is made shall prefer the payment in money.

20. Stock brought to the Fair for sale, will have an enclosed lot adjoining the Fair grounds assigned them, with water convenient, where they can be kept at the expense of the owner.

21. Articles manufactured in the State, when brought in competition with foreign articles will take precedence, other things being equal, and the foreign article be entitled to a second premium.

22. Articles not enumerated will be entitled to discretionary premiums at the option of the Executive Committee.

23. The Chief Marshal, with efficient aids,

will be in attendance during the hours of exhibition to keep proper order.

24. No exhibitor will be permitted to enter more than one animal in each of the sub-classes.

25. Animals, when duly entered, are well provided for by the Society, without charge to the owner, and cannot be removed from the ground, except by permission of the Executive Committee.

26. All machines, implements, or other products of mechanical art, must be exhibited by their respective makers, or inventors, or improvers, or their assignors, to or for whom only premiums for such articles will be awarded.

27. Every machine or implement offered for a premium, must be so designated or described as will serve to identify it to future purchasers, and also the selling price of the article must be stated and marked on the labels and in the published reports of premium articles.

28. Efficiency, cheapness and durability will be regarded as chief excellencies in every machine or implement.

29. The Chief Marshal will call the Judges at 10 o'clock on Tuesday morning—assemble them at his tent on the grounds—furnish them, with the printed list of premiums, also with blank books in which to register their awards, and have the Judges conducted by the assistant marshals to their respective departments of the exhibition.

30. The Marshal and his aids shall give particular attention to the proper arrangements of all articles exhibited in their respective departments; point out the articles or animals to the Judges, and otherwise facilitate the examination by the Judges.

31. The track will be open for the trial of harness and saddle horses every day during the Fair.

32. A band of music will be in attendance each day, during the hours of exhibition.

33. An efficient police will take charge of the grounds during the night.

THOMAS RUFFIN, Ch. Ex. Com.

WILLIAM D. COOKE, Secretary.

Judges to Award Premiums,

At the next Annual Fair to be held at Raleigh, commencing on the 20th October.

Thoroughbred Horses.

Edmund Townes, Granville, Charles Manly, Wake, Thomas McGehee, Person.

Quick Draught and Saddle Horses.

Payton A. Dunn, Wake, John Lewis, Caswell, James Turner, Granville.

Heavy Draught Horses.

John B. Leathers, Orange, John J. Shaver, Rowan, James Twitty, Warren.

Jacks, Jennetts and Mules.

William K. Lane, Wayne, John L. Bridgers, Edgecombe, J. W. B. Watson, Johnston.

Cattle—Devons.

George W. Johnson, Caswell, Thomas D. Meares, New Hanover, John S. Dancy, Edgecombe.

Durhams, Herefords, Ayrshires, Holsteins and Alderneys.

Henry K. Burgwyn, Halifax, Dr. E. A. Crudup, Franklin, Samuel Hargrave, Davidson.

Grades and Natives.

Wm. A. Eaton, Granville, Sylvester Smith, Wake, Dr. James E. Williamson, Caswell.

Imported Cattle.

Dr. Wm. R. Holt, Davidson, Henry T. Clark, Edgecombe, C. H. K. Taylor, Granville.

Milch Cows.

Wm. H. Strother, Franklin, James Sloan, Guilford.

Working Oxen.

S. S. Royster, Granville, A. T. Mial, Wake, R. R. Bridgers, Edgecombe.

Fat Cattle.

Eldridge Smith, Wake, John Hutchins, Wake, Seth Jones, Wake.

Sheep.

Dr. J. M. Davidson, Mecklenburg, Paul C. Cameron, Orange, John S. Yancey, Warren.

Goats.

John S. Burrell, Granville, John O'Rorke, Wake, Rielly Crawford, Wake.

Swine—Large Breed.

J. E. Lankford, Franklin, Ashley Saunders, Johnston, Chas. R. Eaton, Granville.

Swine—Small Breed.

Wm. R. Smith, Halifax, Wm. K. Lane, Wayne, Laurence Hinton, Wake.

Swine—Grades and Natives

Wm. R. Pool, Wake, C. Wooten, Lenoir, Wm. O. Green, Franklin.

Poultry.

Maj. John Caldwell, Mecklenburg, Thomas J. Blacknall, Granville, David Hinton Edgecombe.

Agricultural Productions.

A. W. Venable, Granville, John W. Norwood, Orange, Richard H. Smith, Halifax.

Tobacco.

Thomas Miller, Granville, W. D. Jones, Warren, Wm. Long, Caswell.

Salt Provisions.

Ex. Gov. Ch. Manly, Wake, ——— Sessum, Warren, Owen Fennell, New Hanover.

Dairy.

James Smyth Rowan, John A. Taylor, New Hanover, Dr. Charles Skinner, Warren.

Food, Condiments, &c.

Wm. Upchurch, Wake, J. U. Kirkland, Orange, John Winslow, Cumberland, Nicholas L. Williams, Surry.

Native Wines.

William S. Ashe, New Hanover, Chas. F. Fisher, Rowan, J. D. Whitford, Craven, Wm. J. Hawkins, Wake.

Fruit and Fruit Trees adapted to the South.

Dr. R. S. Mason, Wake, William J. Bingham, Orange, George W. Johnson, Caswell, Prof. E. Fetter, Orange, John Stafford, Alamance.

Vegetables.

Dr. R. C. Pritchard, Warren, T. H. Snow, Wake, W. W. Holden, Wake.

Plows and Harrows.

Dr. Wm. R. Holt, Davidson, Wilson W. Whitaker, Wake, Kenneth Rayner, Hertford.

Threshing Machines, Hay, Straw Cutters, Corn Shellers and Crushers.

Geo. W. Collier, Wayne, E. Belo, Stokes, Edwin M. Holt, sen., Alamance.

Reapers and Mowers.

Dr. G. Field, Warren, Solomon Dixon, Alamance, H. K. Burgwyn, Halifax, E. Mallette, Orange.

Hay, Cotton Press, &c.

J. M. Fleming, Wake, Dr. J. T. Leach, Johnston, Dr. S. McClanahan, Chatham.

Carriages, Wagons, Carts, &c.

P. A. Atkinson, Pitt, J. M. Morehead, Guilford, J. C. Washington, Craven, John Taylor, Beaufort County.

Machinery.

Gen. Alex. McRae, Silas Burnes, N. Hanover, Wake, J. A. Boyden, Rowan, J. H. Thompson, Davidson.

Farm and Domestic Tools.

T. L. Williams, Granville, John A. McManing, Orange, Needham Price, Wake.

Saddles and Harness.

Dr. Wilson, Warren, W. B. Foster, Franklin, Elijah Hillyard, Nash.

Cabinet Work.

Dr. T. D. Hogg, Wake, Thos. Hill, Orange, J. M. Fleming, Wake.

Shoes, Hats, &c.

Alfred Williams, Wake, T. H. Selby, Wake, N. N. Nixon, New Hanover.

Sundries.

James Sloan, Guilford, James McKimmon, Wake, John W. Cunningham, Person, Dr. T. B. Beckwith, Johnston.

Mill Fabrics.

T. H. Dewey, Mecklenburg, C. B. Saunders, Johnston, Daniel A. Montgomery, Alamance, J. A. Bullock, Granville.

Household Fabrics.

Gov. Bragg, Wake, G. W. Mordecai, Wake, John H. Bryan, Wake, Mrs. M. M. Henry, Wake, Mrs. S. S. Royster, Granville, Mrs. G. W. Mordecai, Wake, Mrs. M. Somerville, Warren, Mrs. Archibald Davis, Franklin.

Crochet and Raised Worsted Work.

Mrs. J. Bobbitt, Wake, Miss Sophia Partidge, Wake, Mrs. Kemp P. Battle, Wake, Miss Fanny Hawkins, Franklin, Miss Julia A. Holt, Davidson, Miss Joana Nixon, N. Hanover.

Embroidered Silk, Cotton and Worsted.

Mrs. L. O'B. Branch, Wake, Mrs. Alfred Williams, Wake, Mrs. John U. Kirkland, Orange, Miss Maria Cooke, Wake, Miss J. M. Ruffin, Alamance.

Knitting and Knetting.

Mrs. H. W. Husted, Wake, Mrs. Lynn Henderson, Warren, Mrs. Louisa Kittrel, Granville, Miss Lucy Gregory, Granville, Miss Emma Morehead, Guilford.

Fancy Work and Needle Work.

Mrs. L. P. Cotton, Wake, Miss ——— Venable, Granville, Mrs. J. F. Taylor, Wake, Mrs. J. McKimmon, Wake.

Fine Arts.

Dr. Aldert Smedes, Wake, Francis E. Shober, Rowan, Dr. Chas. E. Johnson, Wake, Mrs. R. M. Saunders, Wake, Mrs. L. Walker, Guilford, Miss Susan Somerville, Warren, Miss Julia O. Saunders, New Hanover.



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WILLIAM D. COOKE, Editor, and Publisher.

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Miscellaneous.

Benefit of Agricultural Fairs.

No fact is more apparent to the reflecting mind, than the immense benefits Agricultural Fairs have contributed to our material prosperity. They have contributed more to our vigorous growth as a nation, than all the gold California can pour into our country for ages. They have awakened a spirit of inquiry in the breasts of thousands, who have elaborated and made known their experience to the world—through the Agricultural Press—contributing their experiments to the general stock of information (which at best is made up of atoms) garnered together,—a rich legacy of facts, from

which the principles of *Truth* shall be deduced by the hand of the future historian. All this has been done quietly. The silent step of agricultural progress has not been noted by the world—as it should have been—for the simple reason that it took time to nurture in man the high obligation he owed to his Maker, his country and himself, to use and develop that which was intrusted to his hand, that it might be improved, and the true design of our Creator carried out.

And what is an Agricultural Fair? Is it a place where the most superior specimens of agricultural products are exhibited to the view of the visitors? Yes. What then? is that all the object, the aim, the end to be accomplished? If so let them go by the board. But a higher object is to be accomplished—has been, and will continue to be—the interchange of thought among those who have produced the articles on exhibition. It is in this light that Agricultural Fairs are accomplishing the grand results which will continue to rank us as a practical, farming and progressive people. It is not enough that we should see the superior crop of grain, &c., but we should have the man with us, that we may know by what process he produced it, so that his co-laborers may know and realise the facts which are brought before them in its most practical form. It is not enough that we see fat cattle, but we see the husbandman who produced them, that our less fortunate husbandmen may, by inquiry and

observation, be aroused to the necessity of doing likewise—so that the object of the Fair may be the means of perpetuating the progressive spirit of political and rural economy.

Fairs, rightly conducted, are great stimulants to good and thorough cultivation of the soil—Nothing is so well calculated to create as healthy a feeling, or develop so thoroughly the true dignity of Nature's noblemen, as this theatre, where all may meet in the exhibition of the arts of peace and usefulness: where those who have failed to realise their fond anticipations from the exhibition of their products, rejoice in the success of their neighbors. It is this feature which endears them to all good men who know the wants of our farmers, and who have, from the earliest stage of their existence, stood by them, believing they were destined to accomplish as much good in their sphere of usefulness, as Education has in hers.

The benefits accruing from Agricultural Fairs are of a two fold nature, and apparent to all. Where the Fairs are made an object of attraction, you will find the greatest amount of thriftiness and prosperity prevailing in the sections which contribute to, and take an interest in, their prosperity. The benefits flowing from them are not to be estimated in a pecuniary sense. There are benefits conferred on the agricultural interest through the influence of this institution, which command our most hearty admiration and respect for those public benefactors of our race who have nurtured and expanded this germ, so that agriculture should take once more her rank as one of the most honorable pursuits of man.

T. C. W., Genesee Farmer.

The Horse Charm ;

OR THE GREAT SECRET OF TAMING HORSES.

The horse-caster is a wart, or excrescence, which grows on every horse's fore legs and generally on the hind legs. It has a peculiar rank, musty smell, and easily pulled off. The ammonical effluvia of the horse seems peculiarly to concentrate in this part, and its very strong odor has a great attraction for all animals, especially canine, and the horse himself.

For the oil of cumin, the horse has an instinctive passion—both are original native of Arabia,

and when the horse scents the odor, he is drawn toward it.

The oil of Rhodium possesses peculiar properties. All animals seem to cherish a fondness for it, and it exercises a kind of subduing influence over them.

The directions given for taming horses are as follows—

Procure some horse-caster, and grate it fine. Also get some oil of Rhodium and oil of cumin, and keep the three separate in air-tight bottles.

Rub a little oil of cumin upon your hand, and approach the horse in the field, on the winward side, so that he can smell the cumin. The horse will let you come to him then without any trouble.

Immediately rub your hand on the horse's nose, getting a little of the oil on it. You can then lead him anywhere. Give him a little of the castor on a piece of loaf sugar, apple or potato.

Put 8 drops of oil of Rhodium into a lady's silver thimble. Take the thimble between the thumb and middle finger of your right hand with the fore-finger stopping the mouth of the thimble, to prevent the oil from running out whilst you are opening the mouth of the horse.

As soon as you have opened the horse's mouth, tip the thimble over upon his tongue and he is your servant. He will follow you like a pet dog.

Ride fearless and promptly, with your knees pressed to the side of the horse, and your toes turned in and heels out; then you will always be on the alert for a shy or sheer from the horse, and he can never throw you.

Then if you want to teach him to lie down stand on the right, or left side; have a couple of leather straps about six feet long; string up his left leg with one of them round his neck strap the other end of it over his shoulders hold it in your hand, and when you are ready tell him to lie down, at the same time, gently firmly and steadily pulling on the strap, touching him lightly on the knee with a switch.—The horse will immediately lie down. Do this a few times, and you can make him lie down without the straps.

He is now your pupil and friend. You can teach him anything, only be kind to him, be gentle. Love him, and he will love you. Fee

him before you do yourself. Shelter him well, groom him yourself, keep him clean, and at night always give him a good bed, at least a foot deep.

In the winter season don't let your horse stand out a long time in the cold, without shelter or covering; for remember that the horse is an aboriginal native of a warm climate, and in many respects, his constitution is as tender as a man's.

Production of Sexes at Will.

"Many curious investigations," says Dr. Gardner's recent work, "have been instigated in regard to this point in the world of nature. It is a matter of familiar knowledge that the male and female characteristics of the higher species of the animal creation, are not produced in the same individual, as they are in the great majority of the higher species of plants. The organs, as will be seen, from which the two are evolved, are, however, so nearly related to each other in intimate nature, that the one may be readily mistaken for the other in the earliest period of their formation. Physiologists now incline to the opinion that the fertilizing vesicle is merely a germ vesicle, in a somewhat more exalted state of development. Mr. Knight has shown that plants, like the oak, that bear the male and female flowers on separate individuals, may be made to produce either at will, by regulating the supply of light and heat according to the end in view. If the heat be excessive as compared with the light, male flowers only appear; but if the light be in excess female flowers are produced. He also found that whenever the eggs of birds are not allowed to be fertilized until immediately before they are laid, and therefore their own intrinsic development has been carried to the highest possible pitch before renewed vivification of the germ vesicle is effected, as many as six out of every seven of the birds subsequently hatched proved to be males. * * Quetelet believes that the relative ages of the male and female parent, influence the sex of the offspring produced, to a very considerable extent. In support of this theory M. Hofacker has shown that when the father is considerably younger than the mother, the proportion of female to male children is generally as ten to nine; but that when, on the contra-

ry, the father is nine years older than the mother, the proportion of male offspring to female is as five to four and when eighteen years older, as two to one. In a general way, more males of the human species are born into the world than females. If all Europe be included in the estimate, the proportion of male to female births is about 106 to 100. Possibly, if Quetelet's views be based on truth, this preponderance on the side of males may be due to the fact that in civilized communities men, from prudential and other motives, mostly marry women younger themselves. But there are other reasons why this preponderance exists. Three male children are born dead to every two females."

Ten Rules to be Observed in Making Butter.

In making good butter there are several nice operations to be gone through with, which require an eye to cleanliness, forethought, and experience.

1. On milking clean, fast yet gently, regularly twice a day, depends the success of the dairyman. Bad milkers should not be tolerated in a herd; better pay double the price for good ones.
2. Straining is quite simple, but it should be borne in mind that two pans about half full each will produce a greater amount of cream than the same milk if in but one pan; the reason of this is the greater surface.
2. Scalding is quite an important feature in the way of making butter in cool weather; the cream rises much quicker, milk keeps sweet longer, the butter is of a better color, and churns in one-half the time.
4. Skimming should always be done before the milk becomes loppered; otherwise much of the cream turns into whey and is lost.
5. Churning, whether by hand or otherwise, should occupy fifteen minutes.
6. Washing in cold soft water is one of its preserving qualities, and should be continued until it shows no color of the milk by the use of the ladle; very hard water is highly charged with lime, and must in a measure impart to it alkaline properties.
7. Salting is necessarily done with the best kind of ground salt; the quantity varies according to the state it is taken from the churn; if

soft, moré—if hard, less; always taking taste for the surest guide.

8. First working, after about 24 hours, is for the purpose of giving it greater compactness.

9. Second working takes place at the time of packing, and when the butter has dissolved the salt, that the brine may be worked out.

10. Packing is done with the hands or with a butter-mall; and when butter is put into wooden vessels, they should be soaked two or three days in strong brine before using. After each packing, cover the butter with a wet cloth, and put a layer of salt upon it: in this way the salt can easily be removed at any time, by simply taking hold of the edges of cloth.

Butter made in this way will keep any length of time required.—*J. C. Adams, G. Farm.*

Saving Honey by Destroying Drones.

It is a certain fact demonstrated by Huber, and proved again and again, since his time, that the impregnation of the queen lasts *three years*; at least, this being the case, there are seasons when the apiarian will be enabled to secure the greatest quantity of honey, by preventing his bees from swarming and at the same time destroying all the drones. The plan is simple and effectual. For the first, it is only necessary to contract the entrance to the hive to a space 5-32 of an inch wide; this will allow a worker bee to pass in and out, but will detain the queen in the hive. This space will also keep back the drones, and if it is proposed to destroy them, (as they certainly ought to be, if the hive is prevented from swarming, and as I shall presently show,) then take a box, say six inches square, and insert a wooden tube $\frac{1}{2}$ inch in aperture and about $1\frac{1}{2}$ inches long, so that it shall be flush with the outside of the box, but project inside about an inch (if the box is half inch stuff the above length of tube will just do). Place this tube in the lower corner of the box, so that it shall overlay the entrance just enough to let a drone enter the tube, from the hive. The rest of the entrance may be contracted to the 5-32 of an inch. Now, place a glass on the open top of the box, covering it all but 5-32 of an inch at one end. The drones will endeavor to go out with the workers, but cannot. They will then follow along till they come to the opening in the tube,

and go through it into the box. They cannot go out of the box into the air, on account of the space being only 5-32 of an inch wide, neither can they go back to the hive, because the tube projects inside, and is not accessible from the bottom or side of the box. If a worker bee goes into the box, of course the slit will let him out (or rather I should say it, being neuter).

When a large number of drones are collected, they may be immersed in water, and the box put back.

It is incredible the amount of honey consumed by the drones, even where there are but a few hundred. But in ordinary hives, where there are sometimes over 1,000, they consume probably as much as is ordinarily laid up in the surplus boxes.

For gentlemen who do not wish to increase the number of their hives, this plan is obviously an excellent one.

The contracted entrance is very suggestive to those who wish "to go to town," or "to church," and are fearful of losing a swarm. A very good way is to cut the slit out of sheet lead, and place it before the entrance. It will be perceived, also, that this space will entirely prevent the queen from going into the top boxes and placing brood among the honey combs. We give our actual experience in the matter.

This article is written in haste, but we shall be glad to write again if it is not sufficiently clear.

APIS.

Whitemarsh, Pa

The Eye, and how to See.

From an article in the Scientific American, with the above caption, we extract the following:

The difference between the use of one and two eyes is not generally known. One eye has been found sufficient for the general purposes of life. There are instances on record of persons having the sight of but one eye, and yet were ignorant for years of having a blind one. There are also a great number of persons who have lost an eye by accident, and with the remaining one have performed all the duties required of the two. Two eyes, however, are better than one, for the field of vision with one is only about 150° , while with two it is about 200° .—It was long supposed, by many, that we saw

objects twice as luminous with two as with one eye; but this is a mistake, for objects are seen as brightly with one as with two eyes.

The pupil of the eye increases in size to admit as much light, when one eye is shut, as when both of them are open; therefore, so far as mere brightness is concerned, the loss of one eye is no disadvantage. Sir David Brewster has determined this by experiment. Two eyes enable us to see solid objects in a higher relief, and all distances in nature more perfectly than one eye. With one eye, however, we see the direction in which an object or point is situated more distinctly than with two eyes. By monocular vision (one eye) we see the exact point where a near object strikes a more distant one in line; this we cannot do with both eyes directed to it, for while they see a near object distinctly, they do not perceive *two* objects in line accurately; hence one eye only is used in shooting with a rifle at a mark, because it takes cognizance correctly of the sight on the rifle, and the mark in a line beyond the needle—further off. Some have supposed that practice alone gives us an appreciation of distances with the eyes—one or two—and this idea of acquiring all knowledge experimentally is taught by some works on philosophy, but it is a mistake. An artist in this city (New York) distinguished for his skill and fine tastes, who has been deprived of the use of one eye for a number of years has told us that in a dim light, such as the dusk of evening, he has never learned to judge well of distances; in other respects, however, monocular vision is more advantageous to him than otherwise in pursuing his profession.

To prove that we can appreciate distances more correctly with two eyes than with one, let any person endeavor to thread a tolerably large needle held out at arms length, and he will discover how deceptive monocular vision is, regarding distance. The needle's eye will appear further from him than it really is, and he will continually thrust the thread in a line beyond it.

A HINT FOR THE SEASONS.—The simplest and best way of preserving woollens through the summer from the destruction of the moths, is to wrap them well up after brushing them and beating them in cotton or linen cloths.—The moth can pass neither. Two covers, well wrapped around and secured from the air, will be effectual. An old sheet will answer, and save all expense of camphor, &c.

The Army Worm.

We find the following in relation to the history and habit of the Army Worm in the National Intelligencer:

"A friend who has made entomology a subject of study, furnishes us with some of the results of his investigations into the character, habits and history of the army worm, of which so many complaints have arisen in various parts of the country. The oat patch west of the Smithsonian grounds supplied him with specimens and an opportunity to observe much concerning these devouring pests. Our friend's first impression, and which indeed he retains, was that the worm in question is identical with the grass worm of the South. Present appearances all attest this identity, but it will require the complete round of transformation to be gone through with before it can be considered certain.

"This worm destroys corn, clover, grain, and every kind of grass, and in the South is found very abundant on the grass, and weeds between the rows of cotton. Its caterpillar, just before changing into the chrysalis, hides under stones, and where the ground is broken under clods of dirt. Their enemies are formidable, the largest being the toad, which stuffs itself with them almost to bursting. The stomach of a toad taken in the oat patch above referred to, having been cut open, was filled with these worms, mixed with a few wings of beetles.—The army worm has another enemy in the black larva of what seems to be a *necrophorous* which preys upon the caterpillar. Besides these there is a small ichneumon, or at all events a parasitical fly, which deposits its eggs all over the back of the caterpillar and they, when matured, spin cocoons, which send forth a cloud of other flies to repeat the process.

"Specimens of the army worm sent hither from Maryland were entirely destroyed by a fly much like the common house fly, but with a lighter colored series of rings around the abdomen, which is hirsute and tipped with brown belonging to the family of *muscidae*. It is a merciful provision of nature that, as these worms, increase, so do the parasitical foes which feed upon and destroy them. But for this the consequences would be terrible indeed to all the hopes of the agriculturist."

Bones and Manure.

The value of bones to the farmer says the American Farmer, is admitted by all; and the improved condition of the Agriculture of England, dates from the introduction of their use, in connexion with the turnip culture. The great difficulty is in obtaining a supply, and a further one of preparing them for the soil.—Various suggestions have been made, to effect this latter object, which we have published from time to time, and now add another from the N. Jersey Farmer, which has the recommendation at least of simplicity:

“Last fall a lot of bones were thrown in a heap of horse manure in the barn yard, and for no other purpose than to get them out of sight. To this heap the manure of the horse stable was daily added. In the spring, upon carting out the manure, the bones were found apparently the same as when thrown in—whole and sound; but upon being handled, were found to be soft; when lifted would fall to pieces of their own weight; when exposed to the air would crumble and become as ashes, emitting a strong and offensive odor. This incident led to a trial of the same experiment last Spring in the same manner, and with the same result.

“We do not pretend to fix the chemical process by which this result is attained; we merely know that such is the result. And if a result so happy in its effects is produced at so little trouble, and with such little cost, our farmers may well spare an odd day in gathering together the old bones lying about their farms, and for the mere trouble of gathering them, add to their lands one of the most fertilizing materials that can be obtained.

“Let our readers avail themselves of this suggestion, and in preparing their manure heap for the winter, have collected together a pile of old bones, and let them be scattered through your heaps where you throw your horse manure, and you will find when the manure is carted out in the Spring, in place of old bones, a manufactured A. No. 1 Bone Dust.”

PRESERVATION OF FLESH, ETC.—M. Robert has contrived a method of preserving animal and vegetable substances, which is easily managed, cheap, and admits of their external ap-

pearance, as well as their peculiar characters being retained. It consists in exposing the partly dried substances to an atmosphere of sulphuric acid gas, and then covering them with a thin film of albumen mixed with molasses. The flesh of animals that have been killed by blowing air into the breast can not be preserved in this way. In the first instance the flesh is freed from, and partly dried in a current of air; the limbs are then hung in an air-tight chamber, so as not to touch, and the sulphurous acid introduced. The time during which the meat is left in contact with the gas depends upon the size of the pieces. For pieces of from four to six pounds, ten minutes is sufficient; pieces of two hundred weight require twenty or five-and-twenty minutes. They are then removed from the chamber, dried in the open air, and brushed over with the albuminous varnish. Flesh thus prepared may be cooked in the usual way, and after being kept a long time, is quite as fresh and good as when the animal has recently been slaughtered.—This method of preservation is said to be equally applicable to game and poultry, with or without the feathers, fish, fruit and vegetables. For transport, the preserved substances are packed in casks, into which tallow or fat is poured at as low a temperature as possible. This prevents shaking, which is always very prejudicial. The preservation of flesh, etc., by this method has received the sanction of the French Minister of Public Health.

Meadow Muck.

The value of muck as a fertilizing agent, is always in the precise ratio of the vegetable matter it contains—all extraneous matters serving only to increase the bulk without adding any percentage to the fructifying energies of the mass, or increasing its value as a stimulant of vegetable life. When, however, it is added to tough, viciid and tenacious clays, the admixture of sand may not be considered injurious, as the mechanical action of this earth will tend to overcome the innate adhesiveness which characterizes such soils; but as an application for loamy lands, in which there is little albuminous matter, the muck will be valuable in proportion to the fibrous or decomposable vegetable matter it contains.

All muck, when taken from its bed, is pos-

sessed of a certain degree of acidity, which renders it necessary to mix it with lime or wood ashes to neutralize the acidity before applying it to the soil. This may also be effected by exposing it to the atmosphere, or to the action of frost, for a time; or it may be sweetened by mixing it with manure in the yards or compost heap.

Muck is a most valuable fertilizer, when properly managed, and the farmer who is so fortunate as to possess the means of obtaining it in sufficient quantity, may bring his lands to any degree of fertility he desires, and at comparatively small cost. For corn and potatoes, as well as for garden vegetables, muck is one of the most valuable stimulants known.—*N. E. Farmer.*

Lightning Conductors.

The Following suggestions in the *Country Gentleman*, by Mr. E. J. McCarthy, relating to cheap lightning rods meets our approbation:

"If one human life is saved through the means of this publication, those who are engaged in sale of conductors at such exorbitant prices that but few purchase, should not allow themselves to complain, but feel thankful for the timely hint. If the property contained in one barn even, is saved from destruction by this simple means, the writer will feel amply rewarded for his trouble.

There being no dispute about the perfect safety of conductors to life and property, the only questions to be considered are, which are the safest and cheapest? There is no person familiar with the subject who will not say that soft iron rods in one continuous length, projecting to a sufficient height above the highest point of a building, and terminating in a well or cess-pool, or in damp earth, are the best electrical conductors known. Now, instead of erecting a single rod from the center of the building, and running over the roof, with fancy points and colored insulators, such as are hawked about and sold at high prices, put up as many as you have chimneys at least, and one at each gable end or high projecting point of every out-building. To do this cheaply, purchase a coil of quarter-inch iron wire, and as many small staples as may be required; saw off as many pieces of bone of proper length and size, with a hole of suitable dimensions

for the wire to pass through and with a ladder and the help of one man, a person of ordinary ingenuity can put up a dozen rods in half a day, at a cost of *one cent a foot*. Who will run the risk of life and property, when perfectly safe conductors can be erected for less than a dollar a piece, including the cost of putting them up?

Sowing Cabbage seed in September.

It has been our custom for years to call upon our readers to sow cabbage seed of different sorts early in September with the view of raising plants to be set out in the early part of November. Our object in doing so is, to induce you to lay the ground work of a supply of cabbages for your family early next summer and through Autumn, and we therefore repeat our advice again.

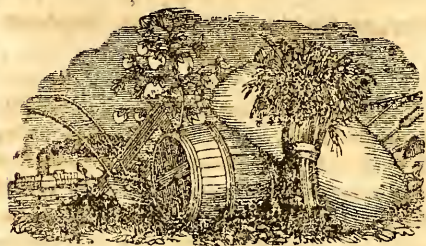
Preparation for the bed.—Select a spot an openly exposed border, or part of a similarly exposed bed; manure it well, dig in the manure a spade deep, rake until you obtain a perfectly fine tilth, then divide it into as many parts, as you have different sorts of cabbage seed. This done sow each kind separately, rake the seed very lightly in, then put down the earth gently with the back of your spade so as to bring it immediately in contact with the seed to quick germination; then dust the bed with a mixture of 4 parts soot and 2 parts plaster.

The following varieties will ensure a continuous supply of fine delicious cabbages from early summer next year throughout autumn, viz:

Early Imperial, Early York, Early Nonpareil, Early Vanak, Early Sugar Loaf, Large York, Flat Dutch, and Large Ox-heart.

If the weather should not be seasonable at the time that you sow the seed, give the bed a free watering; continue this every evening until the plants come up and until rains occurs. Just as your plants get above ground dust them with a mixture of 4 parts *ashes*, 2 parts *soot*, and 1 part *flour of sulphur*, first having watered the plants so as to make the mixture adhere to the leaves. Repeat this two or three or four successive evenings with the following decoction. Put half a bushel of horse dung into a barrel, together with 1 quart of soot and

1 oz. of sulphur tied in a bag; pour hot water thereon, and when the water becomes cool fill up the barrel with cold water, and in 24 hours it will be fit for use. The barrel may be filled up several times. In six or eight weeks the plants will be large enough to be set out to stand the winter.



THE CAROLINA CULTIVATOR.

RALEIGH, SEPTEMBER, 1857.

APOLOGY.—We hope our patrons will accept as a sufficient apology for the appearance of three numbers together at so late a date, that the operations in our office have been greatly embarrassed by sickness among the hands and the absence of the Proprietor. "Better late than never," however, and we now send out to subscribers a large, and, we hope, profitable body of reading upon the greatest interest of the State.

Chinese Molasses.

We are very much obliged to our friend for the following note and the accompanying specimen. The experiments now making so generally with the new article of Sugar Cane are deeply interesting, and every such contribution from careful observers is entitled to the reader's earnest attention. These experiments have been eminently successful in this region. We hope they will be repeated, until it is fully demonstrated that the cultivation of the Chinese Sugar Cane is a profitable branch of agricultural industry.

Raleigh, September, 1857.

W. D. COOKE, Esq.:—The Chinese Sugar Cane seed which you had the kindness to give me early in the spring past, I planted as soon

as our farmers commenced planting Indian corn, in hills, 10 seeds to the hill, and the hills four feet apart each way, and cultivated just as you would our common broom-corn—thinning down to 8 stalks in the hill, and keeping the suckers pulled out. About the time the seed or heads commenced turning black, I had the fodder stripped off, the stalks cut down, seed taken off with about one foot of the stalk, and now commenced the operation of molasses making in North Carolina. Each stalk was pressed through a crushing mill made by Mr. Albert Johnson, of Raleigh, in order to get the juice, which answered an admirable purpose. From my crop, which occupied a space of ground 15 by 25 feet, I obtained 15½ gallons of juice, and did not use about 100 very small stalks. This juice, I boiled in two different iron pots—and after keeping them both to boiling heat *only*, for an hour, constantly skimming the foam off, I caused them to boil *actively*—putting to each five gallons of juice a common tablespoonful of slacked lime. After *six hours* boiling, I obtained three and a half gallons of excellent syrup, a specimen of which, I herewith send. The specimen is not as bright as it would have been, had I used a brass kettle—however, I consider it superior to any sugar-house molasses.

Very Respectfully,
W. WHITAKER, JR.

THE SEASON.—The season is now so far advanced that we may speak with confidence of the general yield of the crops in the United States, which we rejoice to say, has been on the whole excellent and abundant. The improved quality of the wheat has been the subject of frequent remark in many places, and the corn crop will exceed in quantity those of many past years. The probability is that a general decline of prices will take place, and farmers should be prepared for the change.

THE FAIR.—We again call the attention of our readers to the coming Fair, and urge upon them the duty of sustaining the credit of the State by large contributions to the exhibition. Remember that *six thousand dollars* will be distributed in premiums.

A man without desire and without want, is without invention and without reason.

EXCHANGES.—We have on hand late numbers of several valued exchanges, for which the publishers have our thanks, viz: The Eclectic, Godey, Arthur, Peterson, and other leading Magazines of the day. Time will not allow of a more specific notice.

No better time than now for turning under stubble ground.

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Advertisements.

FALL TRADE, 1857.

JOHN N. GORDON, GROCER AND COMMISSION MERCHANT, AND DEALER IN METALS, 14th Street, near the Exchange Hotel, Richmond, Va., offers for sale—

Orleans and Coffee Sugars, various grades, Loaf, Crushed, Granulated and Powdered Sugars. Laguira, Rio and Old Government Java Coffee. Orleans and West India Molasses.

Pure Cider Vinegar.

Sperm, Adamantine and Tallow Candles.

Soaps, Fancy and Brown.

Sole Leather, good and damaged.

All sizes Flat, Round, Square Swedes,

American Hammered,

English Refined,

English and American rolled,

English and American blistered Steel.

German, Cast and Shear Steel.

Broad Plough Iron, 6 to 12 inch.

American, English and Russia Sheet Iron.

Oval, half Oval and half round Iron.

Nail Rods, American and Swedes.

Band, Scroll and Hoop Iron.

Horse Shoes, assorted.

Horse and Mule Shoe Iron.

Tin Plate, Pig and Bar Tin.

Sheet Zinc, Spelter, and Spelter Solder.

Sheathing, Brazier's and Bolt Copper.

McCormick's and Palmer Mould Boards.

Particular attention given to the sale of Wheat, Flour and Country Produce generally.

4,000 Acres of Land for Sale.

THIS Land lies in Chesterfield District, S.C., immediately on the Pee Dee river, and the Cheraw and Darlington Railroad, and by the latter part of the present year, will be within a few hours ride of the city of Charleston. There are about 1,300 acres of the land cleared, which

PRODUCES FINELY

without manure of any kind. The balance is densely covered with a heavy growth of White Oak, Ash, Elm, Dogwood, Hickory, Cotton, Walnut, Poplar, &c., with a

CANE BRAKE

extending near over the entire Tract. About 200 acres of the Tract lie in the Sand Hills, which for Health and Fine Springs of water, is

PROBABLY UNSURPASSED

by any of this State. The Tract will be divided to suit purchasers. For particulars address

E. B. C. CASH,

Cheraw, S. C.

June 1857.

"Learn of the Mole to plough."—Pope.

WYCHE'S CULTIVATING PLOW, (PATENT-) WED 8th of January, 1856—called the Mole; Plow; with vertical cutters near the edge of a horizontal share, for dividing the furrow slice, and a curved cutter on the rear of the share for turning the whole in towards the plow, or as far on the opposite side of the share as may be desired. Adapted to siding, listing, breaking turfy or hard land, subsoiling, and many other purposes. Is light, cheap, and strong; and supposed to be the most perfect pulverizer in use.

For license to sell, with directions for manufacturing, address.

W. E. WYCHE,

Brookville, Granville Co., N. C.

June 16, 1856.

5—tt.

NORTH CAROLINA INSTITUTION

FOR THE DEAF AND DUMB AND THE BLIND,
RALEIGH, N. C.—SESSION OF 1857-'58.

Board of Directors.

WILLIAM H. MCKEE, M. D., *President.*

| | |
|-----------------|--------------|
| S. H. YOUNG, | A. M. LEWIS, |
| JNO. C. PALMER, | Q. BUSBEE. |
| W. W. VASS, | D. G. FOWLE. |

Officers of the Institution.

WM. D. COOKE, A. M., *Principal.*

JAMES A. WADDELL, M. D., *Vice-Principal.*

Teachers in the D. & D. Department.

Geo. E. KETCHAM, | CHAS. M. GROW,

Teachers in the Blind Department.

J. A. WADDELL, M. D. | MRS. S. C. WADDELL,
MISS M. E. COOKE.

MRS. L. E. GROW, *Matron.* | MRS. E. LITTLE, *Housekeeper.*
S. LITTLE, *Steward.*

The next session of this Institution will commence on the first Monday of September. Any intelligent and healthy white resident of the State, between the ages of 8 and 20, whether Deaf and Dumb or Blind, may, if the means of education are wanting, be admitted to the school free of charge. The terms for others may be learned from the Principal. Such pupils as are capable of decided improvement, are not only instructed in the ordinary branches of a common education, but receive such accomplishments as may best fit them for success in life. Music, drawing, needle-work, bead-work, and suitable handicraft arts will form a considerable part of the course through which they pass. Careful attention will be paid to their religious, moral, and physical improvement, and every effort will be made, not only to render them comfortable, but to promote their highest welfare. Pupils should by all means enter early in September. For any information in regard to the Institution, address,

WILLIAM D. COOKE, Principal,
Raleigh, N. C.

NORTH CAROLINA

MUTUAL INSURANCE COMPANY

AT THE ANNUAL MEETING OF THE North Carolina Mutual Insurance Company, held on the 9th inst. the following persons were elected Directors and Officers for the ensuing year:

OFFICERS OF THE COMPANY.

T. H. Selby, *President.*
H. D. Turner, *Vice President.*
H. S. Smith, *Sec'y and Treas.*
John H. Bryan, *Attorney.*

T. H. Selby, *ex officio.*
John R. Williams, } *Executive Committee.*
C. W. D. Hutchins, }

This Company has been in successful operation for more than 7 years, and continues to take risks upon all classes of property in the State, (except Steam Mills and Turpentine Distilleries,) upon favorable terms. Its Policies now cover property amounting to \$4,500,000, a large portion of which is in Country risks; and its present capital is nearly Seven Hundred Thousand Dollars, in bonds properly secured.

The average cost of Insurance upon the plan of this Company has been less than one third of one per cent. per annum, on all grades of property embraced in its operations.

All communications in reference to insurance should be addressed to the Secretary, post paid.

H. S. SMITH, *Sec'y.*

PREMIUM THRESHING MACHINES.

The North Carolina State Fair, held at Raleigh, awarded the First Premium for our celebrated Threshing Machine.

THIS Machine has been fully tested in this State and Virginia, and approved by all who have used it on account of its simplicity of construction, utility, and durability. We have no hesitation in saying they are the best *Threshers* now in use. They are economical in cost, simple in construction, and less liable to get out of working order. We also make a *Hub Horse Power*, which is adapted to either four or six horses. This Power is all that a planter can desire to do the power-work on a plantation: it is very simple in its construction, celebrated for its strength, and not easily got out of repair; and, from the same quantity of power, can do more work than any other now in use.

It is unnecessary for us to particularize further as to the advantages of our Thresher and Power, but respectfully solicit the attention of all, to call and examine for themselves at our manufactory, where they can be seen in full operation; and any recommendation that may be wanted will be given, from planters, and others of this city, who have used them for the last four years.

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Ap., 1857—3m

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Full directions for putting up all kinds of Fruit and Tomatoes, accompany these cans and jars.

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They are made of Tin, Glass, Queens' Ware, and Fire and Acid proof Stone Ware. The sizes are from pints to gallons. These cans and jars are entirely open at the tops, and nest, to secure economy in transportation.

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Be sure to ask for "Arthur's." It has stood the test of two seasons, having been used by hundreds of thousands of families, hotel and boarding-house keepers.

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greeted him with Rounds of Applause, while he exhibited the manner in which Counterfeiters execute their Frauds, and the Surest and Shortest Means of Detecting them! *The Bank Note Engravers all say that he is the greatest Judge of Paper Money living*

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describing the most perplexing positions in which the Ladies and Gentlemen of that Country have been so often found. These Stories will continue throughout the whole year, and will prove the most entertaining ever offered to the Public.

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RALEIGH, N. C.

The subscriber is general agent for the sale of Agricultural Implements and Farming utensils, Field seeds, Fertilizers, &c. &c. Almost all the articles brought to the late Fair are kept on sale and are offered at manufacturers prices with no cost of transportation, as they were brought free by the Railroad.

There is also a new fire proof Ware House on the lot, in which all articles on consignment are stored. The following are some of the articles brought to the late Fair: Horse Powers, Wheat Fans, Corn Drills, Field Rollers, Corn and Cob Crushers, Harrows, Cultivators, and Plows of every size and description.

JAMES M. TOWLES.

Book Binding.

JOHN H. DECARTERET & SON,
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ARE still carrying on the BOOK BINDING business in all its branches at the old stand over "Turner's N. C. Bookstore."

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PATENTED 26TH FEBRUARY, 1856. (THE Bladed Plow,) awarded \$20 premium at the last N. C. State Fair; with cutting blades in the place of a moldboard; cuts, divides and turns over the soil; depositing the finer parts in the furrow, and turning over the turf, clods, &c., on the surface. Is cheap, light, and lasting, and easy to both driver and team. Admirably adapted to almost any purpose for which the plow is used.

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June 16, 1856.

J. H. Gooch, Oxford, N. C., solicits orders for the above plows.

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CELEBRATED

GERMAN BITTERS.

PREPARED BY

DR. C. M. JACKSON. PHILAD'A, PA.

WILL EFFECTUALLY CURE

LIVER COMP'T, DYSPEPSIA, JAUNDICE,

Chronic or Nervous Debility, Disease of the Kidneys, and all diseases arising from a Disordered Liver or Stomach.

Such

as Constipation,

Inward Piles,

Fulness or Blood to the

Head, Acidity of the stomach,

Nausea, Heartburn, Disgust for food,

Fulness or Weight in the Stomach, Sour Eructations

Sinking or Fluttering at the pit of the stomach.

Swimming of the Head, Hurried and difficult

Breathing, Fluttering at the Heart, Choking

or suffocating sensations when in a lying posture.

Dimness of vision, Dots or webs before

the sight, Fever and Dull Pain in the

Head, Deficiency of Perspiration,

Yellowness of the skin and eyes,

Pain in the Side, Back, Chest,

Limbs, &c., Sudden flushes

of Heat, Burning in

the Flesh, Constant

imaginings of evil,

and great depression of

Spirits,

The proprietor in calling the attention of the public to this preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the diseases for which it is recommended.

It is no new untried article but one that has stood the test of a ten years' trial before the American people, and its reputation and sale is unrivaled by any similar preparations extant. The testimony in its favor given by the most prominent and well known Physicians and individuals in all parts of the country is immense, and a careful perusal of the Almanac published annually by the proprietor, and to be had gratis of any of his agents, cannot but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained.

Principal Office and Manufactory No. 96 Arch St. Philadelphia, Pa.

TESTIMONY FROM N. CAROLINA.

ASTONISHING EFFECTS FROM THE GERMAN BITTERS.

Certificate of Dr. W. SMITH, of Pine Hill, Richmond Co., N. C., March 4, 1854.

Dr. C. M. Jackson, Philadelphia.—Dear Sir,—I have been a subject of Dyspepsia in its worst form,

for the last five years. Such was my condition for 12 months that the physicians and all who saw me said I must die. While in this condition, I was carried to the watering places in Virginia, Tennessee and North Carolina, but was not benefited by any water to which I was taken. While on my way home, I stopped a week at Rutherfordton, a small village in N. Carolina to try the effect of some Chalybeate water in that place. About the last of the week, I went into a drug store to get some medicine for my child and myself. There were several of the village physicians in the store, and one of them seemed to take some interest in my case, and after asking me some questions, said he had been a dyspeptic, and had been greatly benefited by the use of "Dr. Hoofland's German Bitters," prepared by you, and he insisted that I should try the Bitters. He also called the next day at my room, and insisted so much that I would try them, that I asked him to get me one bottle. He did it, and I commenced taking it as directed, and I do say I was more benefited by it than all the water and medicine I had ever taken.

After reaching home, one of my neighbors came to me for a prescription and medicine, (he a dyspeptic,) and I gave him nearly all the Bitters I had left; which effected much good in his case. He has often called on me for more of the same kind of medicine, saying he was more benefited by it than any other he had taken, but I have not been able to get any more for him or myself since; will you, therefore, please ship me a dozen or more as soon as possible.

Respectfully yours,

W. SMITH, M. D.

GREAT CURE OF PILES.

Certificate of W. J. ATWOOD, Huntsville, Yadkin Co., N. C., Nov. 1, 1853.

Dr. C. M. Jackson.—Dear Sir,—Allow me to express to you my sincere thanks for your discovery of a medicine, which, to say the least of it, has effected a cure that all other medicines that I have taken have entirely failed to do. "Hoofland's German Bitters," have cured me of the most stubborn and aggravated case of the PILES that, perhaps, ever fell to the lot of man. My case is not a stranger to this community, as I am well known in this and the surrounding counties, and can truly say that my recovery has astonished all my friends and relations, as I had tried everything recommended, and nothing did me any good until I was prevailed upon to try the Bitters. You are at liberty to make any use of this communication, for the benefit of the afflicted, as you may think proper.

Truly yours,

Wm. T. ATWOOD.

These Bitters are entirely vegetable, possessing great advantage over every mineral preparation, as they never prostrate, but always strengthen the system.

Price 75c. per bottle. Sold by Druggists and Storekeepers in every town and village in the United States and Canada, and by

WILLIAMS & HAYWOOD,

November 1856.

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WARRENTON FEMALE COLLEGIATE INSTITUTE

WARRENTON, N. C.

THE 30th session of this school will commence on the 3d of January next, prepared to give thorough instruction in all the branches of female education. Pupils received at any time. All charges from time of entrance.

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| Board, washing, lights and fuel in rooms, | \$60 00 |
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For sale, and orders received in sizes from 1 to 7 inches in diameter, in lengths from 100 to 200 feet, by

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Has now become the standard preparation for the HAIR. Its immense sale, nearly

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Per year, attests its excellence and great superiority over all other articles of the kind. The ladies universally pronounce the

KATHAIRON

To be, by far, the finest and most agreeable article they ever used. It RESTORES the Hair after it has fallen out; INVIGORATES and BEAUTIFIES it, giving to it a rich glossy appearance, and imparts a *delightful perfume*. Sold by all dealers throughout the United States, Canada, Mexico, Cuba and South America, for

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Manufacturers, also, of Perfumery of all kinds, and in great variety. 6m.

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IN QUART BOTTLES,

FOR PURIFYING THE BLOOD,

AND FOR THE CURE OF

Scrofula, Rheumatism, Stubborn Ulcers, Dyspepsia, Salt Rheum, Fever Sores, Erysipelas, Pimples, Broils, Mercurial Diseases, Cutaneous Eruptions, Liver Complaint, Bronchitis, Consumption, Female Complaints,

Loss of Appetite, General Debility, &c.

TO RELIEVE SUFFERING has been the object of the humane and philanthropic of all ages.—Before the practice of medicine became a science, the sick were publicly exposed in the open air, and every passer-by named the remedy he considered most suitable for the complaint. We possess at the present, day, through the agency of the press, a more reliable mode of conveying information to our suffering fellow creatures. Those afflicted with Scrofula, Cutaneous or Eruptive Diseases, will find in the columns of almost every newspaper and periodical published certificates and testimonials from those who have

been speedily cured of these dreadful complaints by the purifying and powerfully regenerative qualities of Sands' Sarsaparilla.

ASTONISHING CURE.

PATERSON, N. Y.

Messrs. A. B. & D. Sands: Gentlemen:—Having witnessed the most beneficial effects from the use of your SARSAPARILLA, it gives me pleasure to send you the following statement in regard to my son. In the Spring, he took a severe cold, and after eight weeks of severe suffering the disease settled in his left leg and foot, which swelled to the utmost. The swelling was lanced by his physician, and discharged most profusely. After that, no less than eleven Ulcers formed on the leg and foot at one time. We had five different physicians, but none relieved him much; and the last winter found him so emaciated and low that he was unable to leave his bed, suffering the most excruciating pain. During this time the bone had become so much affected, that piece after piece came out, of which he has now more than twenty-five preserved in a bottle, varying from one half to one and a half inches in length. We had given up all hopes of his recovery, but at this time we were induced to try your SARSAPARILLA, and with its use his health and appetite began immediately to improve, and so rapid was the change that less than a dozen bottles effected a perfect cure.

With gratitude, I remain truly yours,

DARIUS BALLARD.

We, the undersigned, neighbors of Mr. Ballard cheerfully subscribe to the facts of the above statement.

H. & R. S. HYATT,

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FOR ALL THE PURPOSES OF A
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There has long existed a public demand for an effective purgative Pill which could be relied on as sure and perfectly safe in its operation. This has been prepared to meet that demand, and an extensive trial of its virtues has conclusively shown with what success it accomplishes the purposes designed. It is easy to make a physical Pill, but not so easy to make the best of all Pills—one which should have none of the objections, but all the advantages of every other. This has been attempted here, and with what success we would respectfully submit to the public decision. It has been unfortunate for the patient hitherto that almost every purgative medicine is acrimonious and irritating to the bowels. This is not. Many of them produce so much griping pain and revulsion in the system as to more than counterbalance the good to be derived from them. These Pills produce no irritation or pain, unless it arises from previous existing obstruction or derangement in the bowels. Being purely vegetable, no harm can arise from their use in any quantity; but it is better that any medicine should be taken judiciously. Minute directions for their use in the several diseases to which they are applicable are given on the box. Among the complaints which have been speedily cured by them we may mention Liver Complaint, in its various forms of Jaundice, Indigestion, Langor and Loss of Appetite, Listlessness, Irritability, Bilious Headache, Billous Fever, Fever and Ague, Pain in the side and Loins, for in truth all

these are but the consequence of diseased action of the liver. As an aperient, they afford prompt and sure relief in Costiveness, Piles, Colic, Dysentery, Humors, Scrofula and Scurvey, Colds, with soreness of the body, Ulcers and impurity of the blood; in short any and every case where a purgative is required.

They have also produced some singularly successful cures in Rheumatism, Gout, Dropsey, Gravel, Erysipelas, Palpitation of the Heart, Pains in the Back, Stomach and Side. They should be freely taken in the Spring of the year, to purify the blood and prepare the system for the change of seasons. An occasional dose stimulates the stomach into healthy action, and restores the appetite and vigor. They purify the blood and by their stimulant action on the circulatory system, renovate the strength of the body, and restore the wasted or diseased energies of the whole organism. Hence an occasional dose is advantageous even though no serious derangement exists; but unnecessary dosing should never be carried too far, as every purgative medicine reduces the strength, when taken to excess. The thousand cases in which a physic is required cannot be enumerated here, but they suggest themselves to the reason of every body; and it is confidently believed this pill will answer a better purpose than any thing which has hitherto been available to mankind. When their virtues are once known the public will no longer doubt what remedy to employ when in need of a cathartic medicine.

Being sugar wrapped they are pleasant to take, and being purely vegetable, no harm can arise from their use in any quantity.

For minute directions, see the wrapper on the box.

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This remedy has won for itself such notoriety for its cures of every variety of Pulmonary disease, that it is entirely unnecessary to recount the evidences of its virtues in any community where it has been employed. So wide is the field of its usefulness, and so numerous the cases of its cures, that almost every section of the country abounds in persons publicly known, who have been restored from alarming and even desperate diseases of the lungs by its use. When once tried its superiority over every other medicine of its kind is too apparent to escape observation, and where its virtues are known, the public no longer hesitate what antidote to employ for the distressing and dangerous affections of the pulmonary organs which are incident to our climate. And not only in formidable attacks upon the lungs, but for the milder varieties of Colds, Coughs, Hoarseness &c., and for children it is the pleasantest and safest medicine that can be obtained.

As it has long been in constant use throughout this section, we need not do more than assure the people its quality is kept up to the best that it ever has been and that the genuine article is sold by—

P. F. Pescud and Williams & Haywood, Raleigh,
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4—y.

GREEN SAND MARL OF NEW-JERSEY.
THE NEW-JERSEY FERTILIZER COMPANY
Is now prepared to receive orders for this important Manure. For all lands upon which ashes are beneficial, the Marl is more than a substitute. Professor Cook, in his Annual Report to the Legislature of New Jersey, says:

"The value of these Marls is best seen in the rich and highly cultivated district which has been improved (almost made) by their use. But it may be interesting to examine the causes of their great value in agriculture, and to compare them with other fertilizers. For example: The potash alone may be taken, at an average as five per cent of the whole weight of the Marl; a bushel, when dry, weighs eighty pounds; and in the proportion mentioned, would contain four pounds of potash. This is nearly as much as there is in a bushel of unleached wood ashes."

And again: "It is probable that the great value of the Marl is to be found in the fact that it contains nearly all the substances necessary to make up the ash of our common cultivated plants."

Price, delivered on board vessels at the wharves of the Company at Portland Heights, Raritan Bay, New-Jersey, *Seven Cents per Bushel.*

For further particulars, see Circular, sent free of postage. Orders for other fertilizers will receive prompt attention. Address either of the undersigned.

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9—1y.

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with or without iron frames, have, in their new scale and improved action, a power and compass of tone equalling the grand, with the beauty and durability of the square piano. The Press and first music masters have justly pronounced them equal if not superior to any other make. *They are guaranteed to stand the action of every climate.*

HORACE WATERS' MELODEONS (tuned the equal temperament,) superior in each desirable quality—sole agent for the sale of S. D. & H. W. Smith's celebrated Melodeons—can also furnish Melodeons of all other makers. Prices from \$45 to \$125; for two sets of reeds, \$150; two banks of keys, \$200; Organ pedal bass melodeons, 275 and \$300.

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Each instrument guaranteed to give satisfaction, or purchase money refunded. **SECOND HAND PIANOS AT GREAT BARGAINS** constantly in store; prices from 30 to \$140.

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Says "The Christian Intelligencer" "The Horace Waters Pianos, for elegance of construction, superior depth and sweetness of tone, were pronounced by competent judges at the Crystal Palace to be in all respects masterpieces of Mechanical skill. Having inspected a large number of the Horace Waters' Pianos, we can speak of their merits, from personal knowledge as being of the very best quality."

Nothing at the State Fair displayed greater excellence in any department than the Piano-Forte manufactured by Horace Waters, of this city.—*Churchman.*

The following is taken from the "Christian Inquirer": "The finest among the many pianos at the Crystal Palace are those placed there by Horace Waters, whose instruments are always popular."

The following we take from the "Christian Advocate" Memphis Tenn.: "The Horace Waters' Pianos are built of the best and most thoroughly seasoned material. From all we can learn of this establishment—said to be the largest in the United States—we have no doubt that buyers can do as well, perhaps better, at this time than any other house in the Union."

"Mr. Waters has been long established and is favorably known. We speak from experience, when we assure our readers that his prices are below those usually charged for articles in his line."—*Jacksonian N. J.*

"Your instruments are a sensible improvement upon American Pianos, and on honor to the skillful manufacturer. There is no doubt but they will be appreciated by the public and all admirers of true merit."—*Oscar Comstant.*

"I take great pleasure in pronouncing them instruments of a superior quality both in tone and touch."—*August Gockle.*

For power of tone, depth of bass, and brilliancy of treble, together with accuracy of touch, they are equal to any make I am acquainted with, and I cordially recommend them to those wishing to purchase.—*V. C. Taylor.*

"Our friends will find at Mr. Waters' store the very best assortment of music and of pianos to be found in the United States, and we urge our southern and western friends to give him a call whenever they go to New York."—*Graham's Magazine.*

"We consider them worthy of special attention, from the resonant and exceedingly musical tone which Mr. Waters has succeeded in attaining."—*N. Y. Musical World and Times.*

There is one which, for beauty of finish and richness and brilliancy of tone, equals, if it does not excel, anything of the kind we have ever seen. It is from the establishment of Horace Waters. Being constructed of the best and most thoroughly seasoned material, and upon improved principles, it is capable of resisting the action of the climate, and of standing a long time in tune.—*Savannah Georgian, Savannah, Ga.*

Says the "Evening Mirror," "They (the Horace Waters' Pianos) are very superior instruments and the maker may confidently challenge comparison with any other manufacturer in the country, as regards their outward elegance, and quality of tone and power."

COOKE'S NEW MAP OF NORTH CAROLINA, NOW READY FOR DELIVERY.

THIS Large and Beautiful MAP of North Carolina is now ready for delivery. It is one of the best engraved maps that has ever been published of any State in the Union, and is sold at the low price of Eight Dollars.

No Maps will be sold except by subscription. Agents will be found in most of the counties of the State, or persons desiring a copy of the Map can send their names directly to "Wm. D. Cooke, Raleigh, N. C."

AGENTS WANTED.

A number of counties in the State are yet unengaged. Persons wishing to canvass for the Map will be furnished with the terms, &c., upon application to the undersigned.

Agents are also wanted for South Carolina and Virginia. The Map includes Virginia as far north as Richmond, and South Carolina as far south as the junction of the Congaree and Wateree rivers.

TO EDITORS.

EDITORS in this State, who, having advertised the Map for six months, are entitled to a copy will please communicate the fact to the undersigned, that their copies may be forwarded by first opportunity.

W. D. COOKE,

Raleigh, N. C.

Report of Professors Emmons and Mitchell, to the North Carolina State Ag. Soc., on COOKE'S NEW MAP OF NORTH CAROLINA.

I have had frequent opportunities of testing the correctness of Mr. Cooke's new Map of North Carolina, and parts of the adjoining States. This Map is worthy of special notice: 1st, from the fact that it embraces those parts of Virginia, South Carolina and Tennessee which are of immediate interest to the citizens of this State. 2d, that the eastern part of the State is compiled from data obtained through the determinations of the Coast Survey. 3d, it contains an entirely new feature in its *profile* extending along the line of the Railroad survey from Goldsboro' to Asheville, which exhibits the heights of many interesting points, as well through the central and western parts of the State lying east of the mountains as amongst the Mountains themselves.

In addition to the foregoing it may be justly said that Mr. Cooke has taken unwearied pains to correct the geography of the different counties, and to insert the prevalent names of places, those for instance which have come into use since new lines of travel have been established. It is in fact a New Map, and the only map which can be relied upon for accuracy in its details. It moreover merits commendation for the artistical skill displayed in its execution, its typography being beautiful and distinct.

EBENEZER EMMONS, State Geologist.

In the encomium passed by Prof. Emmons, upon Mr. Cooke's new Map, I fully concur. The particulars mentioned by him are of first rate importance and interest. Most of the maps of the State, heretofore published, have furnished few, if any, indications of the position of any point within our own limits, with regard to the States, north, south, or west of us. This evil has now a remedy. In noticing the map, the very efficient and important aid, in its construction, so fully afforded by Prof. A. D. Bache, Superintendent of the United States Coast Survey, and by Col. Gwynn, having the management of the Survey of a railroad, carried over the Blue Ridge into the valley of the French Broad, should not be passed in silence. Only the portion of the map representing the eastern part of the State has been submitted to my inspection, but to this I presume, the rest will be made to correspond.

E. MITCHELL.

University of N. C., October 21, 1856.

JOHN N. GORDON,
Grocer and Commission Merchant and Dealer
in Metals,

14th Street, near the Exchange Hotel,

RICHMOND, VA.

May, 1856.

S.—W

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Feb. 18—tf



THE CAROLINA CULTIVATOR.

Devoted to Agriculture, Horticulture, and the Mechanic Arts

WILLIAM D. COOKE, Editor. and Publisher.

VOL. 3.

RALEIGH, N. C., AUGUST, 1857.

NO. 6

PUBLISHED ON THE FIRST OF EACH MONTH.

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Miscellaneous.

From "Cozzen's Wine Press," (published in N. Y.)

American Wines.

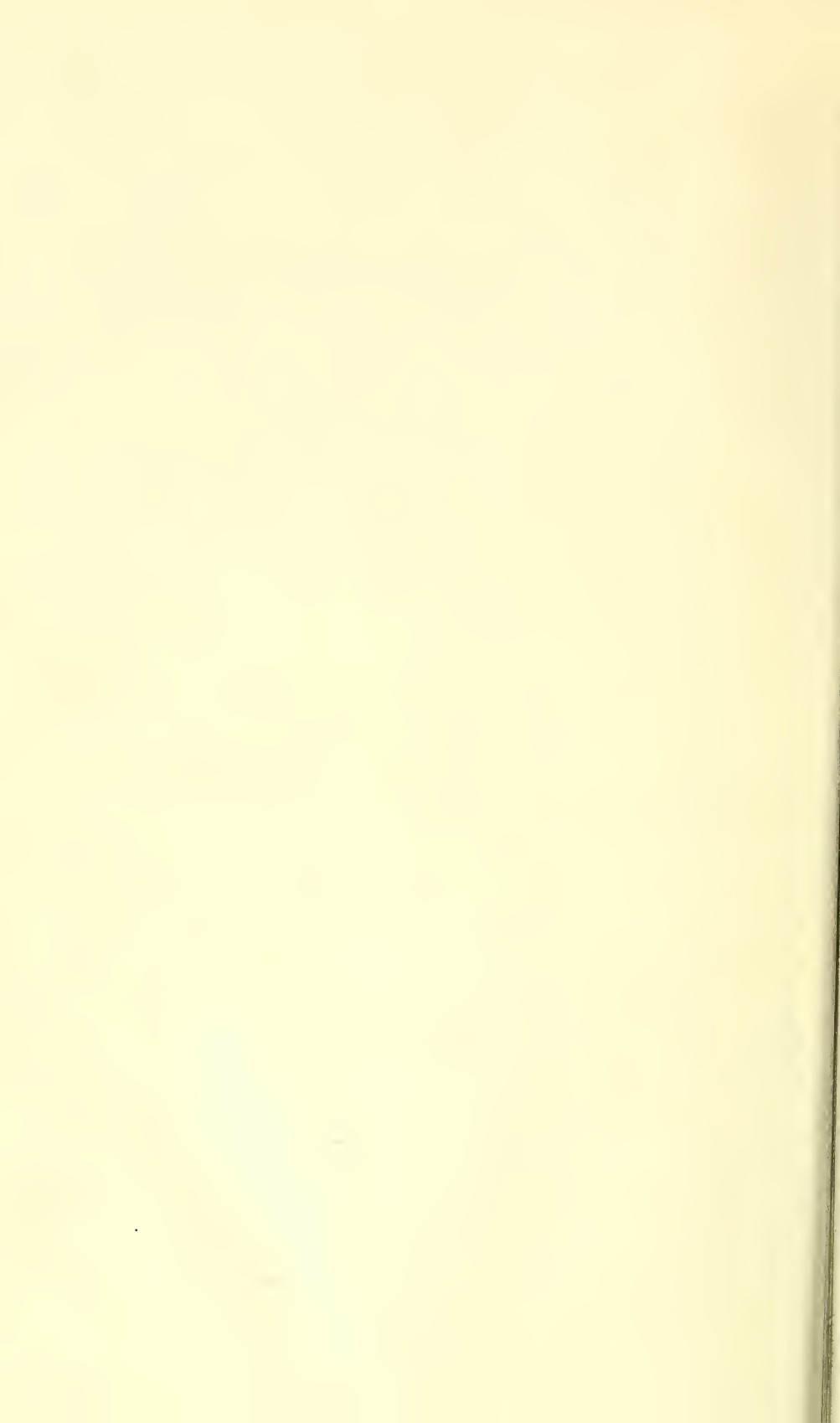
In Georgia, the luscious muscadines, gathered in the wild state, produce a wine of considerable merit; as yet, no attempt has been made to give them a formal training, except here and there, upon a small scale.* This is also the case in South Carolina. But here we are in a sister State, a land of promise, of vines,

* Dr. Cammack, of Athens, Georgia, has quite a large vineyard, and raises quantities of grapes annually. Whether he makes wines, we do not know. There is much wine made for family use in various parts of G., from the wild grapes.

and pines, and mines; of tar and turpentine; the natal soil of the Isabella, the Catawba, the Herbemont, and the sonorous Scuppernong—North Carolina!

We shall have occasion to speak of the Catawba, the Isabella, and the Herbemont, hereafter; the two first, unquestionably owe their reputation to the skill of the cultivators of Ohio and New York, and have only a limited growth in their native State; but Scuppernong vineyards are found from *Currituck* on the extreme north, to the southern counties on the Cape Fear River, and extend inland, almost to the foot of the Blue Ridge Mountains: while so various are the qualities of wine produced, that some kinds command three or four dollars per gallon, and some kinds can be purchased for five or six dollars per barrel! There are two species of this grape, the best having a white, silvery skin, with a rich, metallic lustre, while the inferior kind bears a small, black berry. Mr. Longworth says, "the black Scuppernong bears from one to four berries on a bunch, and would, in times of war, if lead be scarce, be as valuable, even when fully ripe, as the Foxgrape, for bullets." The white Scuppernong, also has a very small bunch, and is a better grape than the black. But the skin is thick, and the pulp hard; it will never be valuable as a wine grape, unless to give to other must aroma and flavor.

If for no other purpose than this, namely, to mix with the must of less flavoured grapes, to



give character to the wine when made, this Scuppernong will prove to be most valuable to this country. The "Traminer" of the Rheingau, a small berried grape, abounding in saccharum, and full of aroma and strength, is so used to mix with the "Riesling," the favorite grape of the Rhine, in the production of the first class German wines. And that the generality of European wines owe their excellence to the judicious mixture of various growths and vintages, is so well known as scarcely to need repeating here. In particular, Madeiras, Sherries, and Champagne wines are so composed; the *capitaz*, or head butler of the Spanish *bodega*, or wine-cellar, being a most important personage, to whom is confided the exquisite task of balancing flavor against body, and lusciousness, which might cloy, against acerbity, which might repel until the whole perfected vinous mass becomes the golden potable which even the gods might envy. So highly are the services of this great functionary prized, that the *capitaz* of a large proprietor seldom fails to amass considerable wealth, as an instance of which, Juan Sanchez, the *capitaz* of the late Pedro Domez, died recently, worth £300,000.

But the value of the Scuppernong as a wine-grape, has not yet become fairly tried; at least not in North Carolina. Of all the samples we have tasted, not one was the pure and original fermented juice of the grape, but, in every case, more or less sophisticated with sugar or honey, and not unfrequently with whiskey or brandy. It is usual to add three pounds of sugar to one gallon of the must, and then a little distilled spirits of some kind is poured into every barrel of wine, "to make it keep." Subjected to this treatment, the fluid degenerates into a sort of vinous grog, and its peculiar character as a wine is almost entirely lost.—Still, in spite of this, it has an aroma which is somewhat grateful. This mistake must be rectified, as a larger experience obtains among our vine dressers of the South; let us look into the matter a little closer.

That species of the muscadine, called the Scuppernong, is a very sweet grape, but sweet grapes are often wanting in saccharine matter. For a familiar instance, take the Catawba and Isabella grapes. To the taste the latter is by far the sweetest fruit; nevertheless, in making a sparkling wine, the Isabella needs a liberal

allowance of sugar, while the Catawba wine requires but little. McCulloch, in his treatise on wine-making, makes a very accurate distinction between this "sweet principle," and that which constitutes the "sugar," in fruit. The latter, the saccharine principle, is the element which, by the process of fermentation, is transmitted into alcohol, or *spirit* of wine, a certain percentage of which is necessary in all vinous fluids. This spirit of the wine is derived directly from the sugar of the grape. Now, the difference between the sweet element and the saccharine element, is very clearly shown by Mr. McCulloch, who illustrates the subject by comparing molasses with refined sugar—the first being much the sweetest of the two to the taste, and yet not comparable to the latter in its proportion of pure saccharum. And, if we may venture upon a theory, we should say "that the reason why sweet grapes make a wine less sweet than those not so dulcet to the taste, lies in this:—that in the sweet grape the whole quantity of saccharum is absorbed in the production of alcohol, while in those more abounding in sugar, a portion only is transmuted into alcohol; the superflux of sugar remaining in undisturbed solution, and sweetening the wine, less or more, as may be."

Now, the Scuppernong grape produces a wine naturally hard and dry, with little to recommend it but its peculiar aroma and flavor; and, in consequence, the must is artificially sweetened to make it a marketable or a saleable commodity. So long as this method of treatment is practiced, neither it, nor any other American wine so used, can rank with any wines of Europe, except with the spurious productions of Cete, Lisbon, and Marseilles. The difficulty lies in this—our *vine growers are afraid of a hard, dry wine*,—because popular taste so far (especially in the rural districts) has been corrupted by the sweetened, sophisticated, poorest class of imported wines, the sweet malagas, and pure juice ports, that are current in every country town. Pure, wholesome wines never are, and never should be, sweet; a glass of surrup is no refreshment for a laborer, it is a miserable solace for the student, and as a daily beverage for anybody, actually repulsive; and as we are looking forward to the period when our wine shall be used, not only at weddings, merry-makings, balls and dinners, but as the common drink for all classes of people,

we should define now and here, that by *wines*, we mean the pure, fermented juice of the grape, without the admixture of anything else whatever.*

That the Scuppernong is a hard, dry wine, when made without sugar, is doubtless true; but the question is, "what character will this very wine assume when mellowed by age?—The Sercial, the king of Maderas, is a harsh, austere and repulsive drink, for the first few years, nor is it drinkable until age has corrected the acerbity of its temper—but what then? Then it becomes one of the most exquisite fluids in the world, and commands a price superior, in some instances, to any known wine, with the exception of Imperial Tokay. The real merits of the native wine of North Carolina, then, still need developement; age and proper treatment must, in time, produce something; for the Scuppernong is not destitute of delicate aroma, an important quality, indeed. The mode of culture is peculiar—the vines (layers, not cuttings), are planted one hundred feet apart, the main branches have space to run fifty feet each way, at right angles from the centre, before meeting. Each vine may be represented thus + the laterals interlacing over head and forming a canopy. The branches are never pruned, as it is said, "the vine would bleed to death." Like the vines in Lombardy, these are *high trained* (*haut tige*), the lowest branches being eight feet above, and parallel with the ground. The yield is most abundant; a single vine often bearing thousands of bunches, the berries small and but few to the bunch. Instances have been cited of single ones yielding enough grapes to make several barrels of wine, and covering two and a half acres of ground. We have no data to estimate the yearly produce of these vines, neither the quantity nor value; but we are well convinced that even now the statistics of grape culture in this State would present an imposing array of figures.

We have already seen specimens of native vines of Virginia, of excellent quality. The

* "Be assured," says President Jefferson, in a letter to Maj. Adlum, April 20, 1810, "that there is never one atom of anything whatever, put into the good wines of France. I name that country, because I can vouch the fact from the assurance to myself, of the vignerons of all the best wine cantoned of that country, which I visited myself."

Catawba there is an abundant bearer, and the wine made from it is essentially different from that of Ohio. The climate of this State would seem to be peculiarly adapted for the purpose, and the wild and waste land might be turned to profitable account in the production of vines. To Virginia we are indebted for many species already popular, among which, we may instance "Norton's Seedling," the "Woodson, and "Cunningham." Here, too, the Bland grape grows abundantly, under the name of the Virginia Muscadell. In Maryland and Delaware, also, a variety of native grapes are cultivated, some of extraordinary productiveness. One vine, raised by Mr. Willis (near Baltimore), in 1832, yielded twenty-five thousand bunches; and in the following year, Messrs. C. M. Bromwell and R. Monkland certify, "that they counted upon it, fifty-four thousand four hundred and ninety bunches, omitting small and young ones, which would have added at least three thousand more."* Why Messrs. Bromwell and Monkland could not wait till the young ones grew up, is a question. To leave three thousand bunches out of the tally, because they were small and green, is an insult to Young America.

That part of the United States between the thirty-eighth and forty-fourth parallels of latitude, so far, is entitled to the supremacy in grape culture. Already the wines of Ohio and Missouri begin to supplant the imported Rhine and Champagne wines here, even at the same prices. Terraces rise above terraces on the hill sides of the Ohio river, and the red bluffs begin to disappear beneath masses of vine foliage and purple clusters of fruit. In Pennsylvania, at the end of the last century, an association was formed for the purpose of cultivating the grape, for wine, and vineyards were established at Spring Mill, under the superintendence of Mr. Peter Legoux. This was a failure:

* At Mr. Weller's vineyard, about eighteen miles from Wilmington, N. C., two gentlemen, (Mr. J. R. Reston and another) made an estimate of the produce of two vines. They laid out a square by measure, and picked the grapes within it, and by taking the number of square yards of the entire space occupied by the vines, they were able to tell from the quantity gathered in the square, that the two vines would yield one hundred and fifty barrels of grapes. Taking the weight of a barrel at 200 lbs, this would amount to 15,000 pounds to each vine, or *seven and a half tons!*

foreign wines were tried and abandoned, and finally the wild grape called the Schuylkill Muscadell met with temporary success. It was only *pro tempore*, however, and the failure of that vineyard threw a broad-brimmed shadow over similar enterprises thenceforward. But the vine begins to flourish again in the land of drab, and we presume by and by Pennsylvania will not be behind the rest of the middle States.

In our own State there is already much wine made from the Isabella grape—in Orange county; in Columbia county, among the Shakers; and on the banks of the Hudson, in the neighborhood of the city. We have tried many of these wines, and although want of experience, and improper treatment is manifest, yet there is sufficient merit in them, to insure us in the prediction “that the grape culture will soon prove to be one of the most valuable fields for enterprise ever presented to the people of New York.” Here is the soil, here is the climate for the Isabella; as Ohio is to the Catawba, so will this State be to this grape.—Here, too, is the market, so that the cost of transportation will be trifling, and the day may not be far off when ships shall lay beside the rich vineyards on the Hudson’s banks, to receive the golden freightage for distant Europe.

In New Jersey the vine has been cultivated for many years, especially in the neighborhood of Burlington. The soil of some parts of this State is peculiarly adapted for the purpose, and we may hope hereafter for better wines than those she now furnishes under a variety of foreign brands. Still further west we find that Indiana, Illinois and Michigan are improving the hint given by Ohio; in fact, Indiana must be recognized as one of the pioneers; for, in the beginning of this century, the most considerable quantity of native wine made in the United States was from the Cape or Schuylkill grape of Vevay, Switzerland county, Indiana.

Missouri already ventures to contest the palm with Ohio. In 1852, the vineyard at Hermann embraced some forty or fifty acres only, and this year, we are informed that no less than five hundred are under cultivation there, besides many other vineyards in the interior of this thriving State. At the Crystal Palace exhibition, in New York, six prizes were awarded to vine growers of Missouri for samples of supe-

rior native wines, both Isabella and Catawba, still and sparkling. The last grape is the favorite there, as it is also in Kentucky and Tennessee. In St. Louis, the native wines are rapidly supplanting the foreign, especially the sparkling kinds: at the hotels there the majority of wines on the tables are of home production.

Now, good friend, if you are tired with our long itinerancy, take the cool, green glass, and reach yonder long-necked amber-colored, Rhinish looking flask, if you be a hock drinker; or if not, let us cut the cords around this other cork, for the luscious fluid confined within the fair, round bottle, hath that propulsive spirit it must needs be imprisoned, and held with ligatures of flax and wire. You will try the first? Aha! you like it, do you? Compare it with this Rudesheimer, the “Berg” of 1846. Is not the aroma of the last the most agreeable? You think not? That smack of the lips speaks loudly in favor of the other; and what think you of its farewell taste—the *arrier gout*?—“Fine,” you say, “and delicate, and leaves the mouth sweet and cool.” “Which do you prefer?” “The first,” you say? Bravo for Catawba! Good friend, surprised, holds forth his empty glass, and says, “You don’t say so?” We fill it, and repeat that it is true. Good friend much animated, “Why, when I was in Cologne I paid twenty florins for a bottle of Metternich Schloss Johannesberger and altho’ it was an old wine, and had the arms of the prince on the seal, yet, to my taste, this wine appears even better than that.” We set forth fair champagne glasses, and cut the strings of a bottle of different shape. “Try this,” (good friend tastes). “By the moist, purple globules of Bacchus’s great plant, this is delicious! (he drinks). What is it?” We answer, “Isabella.” (Good friend, watching the sparkles with the glass up to his eye)—“Not our Isabella?” We reply in the affirmative. “And where, in the name of roses and raspberries, was it vintaged?” We answer, “Cincinnati.” “Not in the city?” We respond, “The wine is made and the grapes grown within the corporate limits of that celebrated western town.” (Good friend, anxiously)—“Proceed with the itinerary.”

To Ohio the praise belongs of first producing a pure, native wine, of great merit. Patient, careful cultivation of the fruit, with judi-

cious management of the fermented juice afterwards, is always necessary in the production of a fine wine; and this union of scientific culture with scientific treatment had never been brought to perfection until the vine dressers of Ohio set the example. And first and foremost among these stands Nicholas Longworth, as he is familiarly termed there, "*The father of grape culture in the west.*" It is not alone by years of patient investigation; it is not alone by the success which has followed those efforts; it was not by the vast variety of experiments he has tried, and by the untiring energy which, in spite of numberless disappointments, still survived and triumphed over every defeat, that he has won this title from his fellow citizens. But it was because every effort and every experiment was for the benefit of all; because, with him, the success of grape culture in this country was paramount to personal considerations; because, by every means, he spread as widely as possible the results of his investigations and labors, so that the young vine-planter of to-day might stand upon even ground with himself, the veteran of nearly half a century's experience. Adlum and Dufour predicted the success of grape culture in the United States, but Longworth, their cotemporary, lived to see the prediction verified, and mainly by his personal exertions. Would that all patriots were so rewarded.

The two principal wine grapes of Ohio are the Catawba and Isabella; the first, however, in the proportion of twenty to one. Both are natives of North Carolina. The first was found and noticed merely as a wild grape, in the year 1892, by Colonel Murray and others, in Buncombe county, N. C.* There it reposed for upwards of twenty years without attracting attention, and so would have remained probably until now, had not its merits been discovered by Major John Adlum, of Georgetown, N. C., in or about the year 1826. Major Adlum, an officer of the Revolution, formerly surveyor-general of Pennsylvania, was a great cultivator of the grape, and devoted the last years of his life to that purpose. In the course of his experiments with native vines, he found this one in the garden of a German at Georgetown, and after a fair trial, was so convinced of its value as a wine grape, that he sent some of the

slips to Mr. Longworth, with a letter, saying, "I have done my country a greater service by introducing this grape to public notice than I would have done if I had paid the national debt." Adlum paid the debt of nature soon after, but the slips fell into good hands. For nearly thirty years, with patient perseverance these grapes were nurtured by Mr. Longworth, until the hour has arrived when the prophecy of Major Adlum seems certain of fulfillment—Thirty years of patient labor; thirty years of unflinching faith; thirty years of man's life; what a span it is! stretching from hopeful youth to hoary age; a long while, my good friend, to look forward to, a long way to look back. In the thirty years to come we may have occasion to thank these pioneers—we may see greater results than either of them dreamed of.

The Isabella grape was first introduced to notice by Mr. Geo. Gibbs, of Brooklyn, L. I. The slips were brought from North Carolina by Mrs. Gibbs, his wife, and the vine, in compliment to her, was named the "Isabella." Originally it was called the "Laspeyre grape," Mr. Bernard Laspeyre, who resided near Wilmington, N. C., having the parent vine from whence these slips were derived. By him it was supposed to be a foreign grape, but all scientific writers on vines in this country assert that the species, in a wild state, is quite common, and is unquestionably an indigenous production of the United States. From these two grapes the best wines are made in Ohio. We may also mention that the "Herbemont," another variety of "the natives," produces an extraordinary fine wine, the flavor being like the purest A-montillado, and essentially different from the other two. Heretofore the demand for home consumption has prevented the shipment of these wines east of the mountains; but, by the increase of vineyards in Ohio and elsewhere, a limited quantity is now being sent to this city and Philadelphia.*

An estimate of the entire wine crop of Ohio has not yet been made. Within a circle of 20 miles around Cincinnati there were raised in

| | | | | | |
|-------------------------------|---|---|---|---------|----------|
| 1848, | - | - | - | 84,000 | gallons. |
| 1849, (the worst year for rot | - | - | - | 36,000 | " |
| ever known there), | - | - | - | 125,000 | " |
| 1852, | - | - | - | 340,000 | " |
| 1853, | - | - | - | | |

* The Isabella and Catawba wines of N. Longworth, were first introduced in New York in May, 1852, by the editor.

* Buchanan.

This year,† on account of the severe cold weather in the spring, and the heavy, long, continuous rains, the crop will be a short one; but new vineyards are multiplying, and, if this year does not promise so well as the last, yet, from the increased number of cultivators, there must be a continually increasing yield of wine, as there certainly is a constantly increasing demand for it.

In comparing those wines with those of Europe, we must bear in mind that they are distinct in flavor from any or all of them. Sparkling Catawba is not Champagne, nor can Isabella be compared with another wine known in the world. It is a peculiarity of these wines that no spurious compound can be made to imitate them, and in purity and delicacy, there is no known wine to equal them. From the experiments made by eminent chemists, we find the percentage of alcohol ranks thus, according to Brände, and others:

| | | |
|-----------------------|---------|-------|
| Madeiras, | - - - - | 22.27 |
| Ports, | - - - - | 22.90 |
| Sherries, | - - - - | 19.17 |
| Clarets, | - - - - | 17.11 |
| Sauternes, | - - - - | 14.22 |
| Burgundies, | - - - - | 14.57 |
| Hock and Rhine Wines, | - - - - | 12.08 |
| Champagne, | - - - - | 12.01 |
| Tokay, | - - - - | 9.85 |

Thus, it will be seen, that the most expensive wine in Europe, the "Tokay," is also the lowest in alcoholic per centage. But, we find, by the analysis of our good friend Dr. Chilton, that "Still Catawba" shows a per centage of 9.50 only, being, in fact, the lowest per cent. of spirit to be found in any wine in the world.

We could pursue this subject for a page or two more, but the wine tide is at ebb in the bottle. We did intend to speak of the late Col. Alden Spooner, formerly editor, in fact first editor, of the *Long Island Star*; a man of many virtues, and one who was zealous in introducing the grape in the Empire State. We did intend to speak of a gentleman of Ohio, Mr. Robert Buchanan, to whom we are indebted for much information on this subject. We did intend to speak of other eminent vine-growers, but there is a time to squeeze grapes, and a time to squeeze hands, and so, reader,—*vale!*

Planting a Lawn.

After what was said in a former paper on the making of lawns, it may be presumed that the ground is in a proper state for receiving the trees to be planted in it. Its low, wet points have been drained, it has been plowed deeply or trenched with the spade, and suitably enriched. The foundation work is done.

The next point requiring attention is the formation of a plan according to which the trees, shrubs and flowers shall be arranged. It is not enough to find out how many trees the ground will hold, and then to plant them in rows like an orchard. Nor is it enough to set them here and there without any design whatever, taking it for granted that, because formal lines are avoided, the scene will therefore appear natural and graceful. Certain designs are more pleasing than others; and there is, probably, one design better suited to each particular scene than any other. The planter should aim to find out what that is, and then adopt it as his own.

It is a generally admitted principle, that all offensive objects within view from the lawn should be concealed. It may be a barn or out-house; it may be the rear premises of a slovenly neighbor. These should be hidden by masses of trees. Fences should not appear in sight from the lawn. They are seldom handsome objects in themselves, and are suggestive of limitation and restraint. They continually remind one of the comparative prettiness of the beautiful scene before him. Let those limits be kept out of view, leaving the imagination to picture an indefinite scene of delight, of which the lawn is the centre. Fences may be concealed by hedges and trees, not set in stiff rows, and so suggestive of what it is desired to keep out of sight, but diverging here and there in the premises, and then retiring towards the fence, in easy, flowing lines. This boundary belt should be composed largely of evergreens, because they furnish a protection in winter, and more effectually than other trees, conceal fences at all seasons of the year. Large trees should be in the rear, smaller trees and shrubs next to the lawn, and running out here and there on its surface.

The writer of this once visited a country residence on Staten Island, where this plan had been admirably executed. Here, there were two or three lawns, separated from each other by shrubbery; but the outer boundaries of each were

† 1834. The crop was a short one.

planted with masses of trees and shrubs, shutting out the roads and fences near at hand, but preserving fine views of the bay and other scenery about New York. In the back-ground of the principal lawn were pines, cedars and hemlocks, intermingled with groups of maples, among which the dark foliage of the Norway was conspicuous; here and there tulip-trees and magnolias, flaunting their large, glossy leaves; and in another place were several varieties of the elm. In front of those were smaller trees, such as the mountain-ash, filibut, dogwood, and virgilia lutea. Before these again, were shrubs of high and low degree, running out at intervals into the lawn, and scattering their blossoms on the velvet turf. In one corner, a large, weeping willow, forgetful of all rules, had thrown out its long, pendulous branches over smaller trees and shrubs, and trailed them on the grass of the lawn, forming a picture of luxuriance and gracefulness which the visitor could not soon forget.

But, it may be asked, is not this method of planting the lawn's boundaries somewhat unneighborly and exclusive? May not the spectator from without be permitted a glimpse of your smooth sward, your rare trees and flowers? Yes, certainly. A lawn should be somewhat screened from the gaze of street goers, so that the family may make it a place of frequent and unrestrained resort. "We do not entirely feel that to be our own," said Downing, "which is indiscriminately enjoyed by every passer-by." And it should be remembered that no country residence is so perfect in all its parts, that a finer effect is not given to some portions if they are partially concealed, the imagination of the beholder being left to conceive something better of what his eyes are not permitted to see. While we say this, it should also be observed that the proprietor of a fine place owes something to the public. There are many persons of rural tastes who have not the means of gratifying such inclinations in lawns of their own, who would, nevertheless, highly enjoy a glimpse of such scenes from the road-side. The sight of well-kept grounds tends to inspire a public taste for rural improvements. A truly benevolent man will desire to afford such gratification, and to promote such refinement of the public taste. We therefore hold that while a lawn should be partially screened from the dust and publicity of the highway, it should

also be open at certain points to easy observations from without.

In determining what trees to plant on the lawn, and where they should stand, much will depend on the size of the grounds. If large, the trees may be of the larger sorts, and groups of them may be introduced. But most lawns in this country, are small, and masses of trees must be confined to the boundaries. And as the beauty of a lawn consists chiefly in its broad reaches of smooth, unbroken turf, it is not advisable to occupy the space with numerous trees. The lawn is generally a highly cultivated scene near the dwelling: the trees selected should therefore, be of the finer sorts, with neat bark and pleasing foliage. Where the space will permit, some should be allowed to grow without pruning, from the ground to the top, forming a well-rounded mass of waving foliage. Evergreens should always be treated in this way, having no gaps in their outlines from the branches which sweep the turf up to their topmost comes.

In planting shrubs, some specimens of the fine form and foliage may occasionally be planted singly, along the borders of walks; but as a general rule a finer effect is produced by setting them in groups, the highest in the center, and lower ones around them. In grouping, regard may sometimes be had to shades of color. For example, a striking scene may be produced by mingling the dark green of the European Strawberry tree with the gray hues of the Missouri Silver tree, and the purple of the Purple Berry, the whole softened by blending the lighter green of other shrubs with them. A very odd scene may be produced by grouping the variegated-leaved shrubs, such as the variegated Syringa, Euonymus, dog-wood, &c.

A lawn is not complete without its flowering plants. It should not be cut up with large beds, and they crowded with straggling, ill-assorted specimens. The best mode is to cut out in the grass a few circular or other graceful figures, near the walks, and to fill them with verbenas, geraniums, petunias, perpetual roses, and other plants of neat habit, and which furnish a constant bloom throughout the summer. It is an excellent plan to occupy a portion of these beds with early flowering bulbs, which can be removed after their period of bloom, or their tops can be cut off and the space covered again with bedding plants. In this way a succession of flowers can be kept up the whole season.

From the Prairie Farmer.

Influence of Horticulture.

BY A. J. DOWNING.

The multiplication of Horticultural Societies is taking place so rapidly of late, in various parts of the country, as to lead one to reflect somewhat on their influence, and that of the art they foster, upon the character of our people.

Most persons, no doubt, look upon them as performing a work of some usefulness and elegance, by promoting the culture of fruits and flowers, and introducing to all parts of the country the finer species of vegetable productions. In other words, they are thought to add very considerably to the amount of physical gratifications which every American citizen endeavors, and has a right to endeavor, to assemble around him.

Granting all the foregoing, we are inclined to claim also, for horticultural pursuits, a political and moral influence vastly more significant and important than the mere gratification of the senses. We think, then, in a few words, that horticulture and its kindred arts, tend strongly to fix the habits, and elevate the character, of our whole rural population.

One does not need to be much of a philosopher to remark that one of the most striking of our national traits, is the SPIRIT OF UNREST. It is the grand evergentic element which leads us to clear vast forests, and settle new States, with a rapidity unparalleled in the world's history; the spirit, possessed with which, our yet comparatively scanty people do not find elbow-room enough in a territory already in their possession, and vast enough to hold the greatest of ancient empires; which drives the emigrant's wagon across vast sandy deserts to California, and over Rocky Mountains to Oregon and the Pacific; which builds up a great State like Ohio in 30 years so populous, civilized and productive, that the bare recital of its growth sounds like a genuine rhapsody to European ears; and which overruns and takes possession of a whole empire, like that of Mexico, while the cabinets of old monarchies are debating whether or not it is necessary to interfere and restore the balance of power in the new world as in the old.

This is the grand exciting side of the picture. Turn it in another light, and study it and the effect is by no means so agreeable to the reflective mind. The spirit of unrest, fol-

lowed into the bosom of society, makes of man a feverish being, in whose Tantalus' cup repose is the unattainable drop. Unable to take root anywhere, he leads, socially and physically, the uncertain life of a tree transplanted from place to place, and shifted to a different soil every season.

It has been shrewdly said that what qualities we do not possess, are always in our mouths. Our countrymen, it seems to us, are fonder of no one Anglo-Saxon word than the term *settle*. It was the great object of our forefathers to find a proper spot to settle. Every year, large numbers of our population from the older States go west to settle; while those already west, *pull up*, with a kind of desperate joy, their yet new-set stakes, and go farther west to settle again. So truly national is the word, that all the business of the country, from State debts to the products of a "true farm" are not satisfactorily adjusted till they are "settled;" and no sooner is a passenger fairly on board one of our river steamers, than he is politely and emphatically invited by a sable representative of its executive power, to "call at the captain's office and settle!"

Yet, as a people, we are never settled. It is one of the first points that strikes a citizen of the old world, where something of the dignity of repose, as well as the value of action, enters into their ideal of life. De Tocqueville says, in speaking of our national trait:

"At first sight, there is something surprising in this strange unrest of so many happy men, restless in the midst of abundance. The spectacle itself is, however, as old as the world. The novelty is to see a whole people furnish an exemplification of it.

"In the United States a man builds a house to spend his latter years in, and sells it before the roof is on; he brings a field into tillage, and leaves other men to gather the crops; he embraces a profession, and gives it up; he settles in a place, which he soon after leaves, in order to carry his changeable longings elsewhere. If his private affairs leave him any leisure he instantly plunges into the vortex of politics; and if at the end of a year of unremitting labor, he finds he has a few days' vacation, his eager curiosity whirls him over the vast extent of the United States, and he will travel fifteen hundred miles in a few days, to shake off his happiness."

Much as we admire the energy of our people we value no less the love of order, the obedience to law, the security and repose of society, the love of home, and the partiality to localities endeared by birth or association, of which it is in some degree the antagonist. And we are therefore deeply convinced that whatever tends, without checking due energy of character, but to develop along with it certain virtues that will keep it within due bounds, may be looked upon as a boon to the nation.

Now the difference between the son of Ishmael, who lives in tents, and that man who has the strongest attachment to the home of his fathers, is, in the beginning, one mainly of outward circumstances. He whose sole property is a tent and a camel, whose ties to one spot are no stronger than the cords which confine his habitation to the sandy floor of the desert, who can break up his encampment at an hour's notice, and choose a new and equally agreeable site, fifty miles distant, the next day—such a person is very little likely to become much more strongly attached to any one spot of earth than another.

The condition of a western emigrant is not greatly dissimilar. That long covered wagon, which is the Noah's ark of his preservation, is also the concrete essence of house and home to him. He emigrates, he "squats" he "locates," but before he can be fairly said to have a fixed home, the spirit of unrest besets him; he sells his "diggings" to some less adventurous pioneer, and *tackling* the wagon of the wilderness, migrates once more.

It must not be supposed, large as is the infusion of restlessness in our people that there are not also large exceptions to the general rule. Else there would never be growing villages and prosperous towns. Nay, it cannot be overlooked by a careful observer, that the tendency "to settle" is slowly but gradually on the increase, and that there is, in all the older portions of the country, growing evidence that the Anglo-Saxon love of home is gradually developing itself out of the Anglo-American love of change.

It is not difficult to see how Horticulture contributes to the development of local attachments. In it lies the most powerful *philtre* that civilized man has yet found to charm him to one spot of earth. It transforms what is only a tame meadow and a bleak aspect, into an Eden of

interest and delights. It makes all the difference between "Araby the blest," and a pine barren. It gives a bit of soil, too insignificant to find a place in the geography of the earth's surface, such an importance in the eyes of its possessor, that he finds it more attractive than countless acres of unknown and unexplored "territory." In other words it contains the mind and soul of the man, materialized in many of the fairest and richest forms of nature, so that he looks upon it as tearing himself up, root and branch, to ask him to move a mile to the right or the left. Do we need to say more, to prove that it is the panacea that really "settles" mankind?

It is not, therefore, without much pleasurable emotion, that we have had notice lately of the formation of five new Horticultural Societies, the last at St. Louis, and most of them west of the Alleghanies. Whoever lives to see the end of the next cycle of our race, will see the great valleys of the West the garden of the world; and we watch with interest the first development, in the midst of the busy fermentation of its active masses, of that beautiful and quiet spirit, of the joint culture of the earth and the heart, that is destined to give a tone to the future character of its untold millions.

The increased love of home and the garden, in the elder States, is a matter of every-day remark; and it is not a little curious, that just in proportion to the intelligence and *settled* character of its population, is the amount of interest manifested in horticulture. Thus, the three most settled of the original States we suppose to be Massachusetts, New York and Pennsylvania; and in these States horticulture is more eagerly pursued than in any others. The first named State has now seven horticultural societies; the second, seven; the third, three. Following out the comparison in the cities, we should say that Boston had the most settled population, Philadelphia the next, and New York the least so of any city in the Union; and it is well known that the horticultural society of Boston is at this moment the most energetic one in the country, and that it is stimulated by the interest excited by societies in all its neighboring towns. The Philadelphia society is exceedingly prosperous; while in New York, we regret to say, that the numerous efforts that have been made to estab-

lish firmly a society of this kind have not, up to this time, resulted in any success whatever. Its mighty tide of people is as yet too much possessed with the spirit of business and of unrest.

To Dissect the Atmosphere.

The atmosphere in which we live, that supports all animal life in respiration, and all the furnaces, fires and decaying organic matter on the globe in combustion—fast and slow—is stated to be principally composed of two gases. How do we know this? By performing the following experiment: Take a glass vessel containing a certain amount of water, in which is placed a cork to float a piece of phosphorus, on its surface; ignite the phosphorus, then place a glass globe over it, (and into the other vessel, which must be wider than the globe.) White vapors will soon arise from the burning phosphorus, which at first burns brightly, but soon grows fainter and fainter, then goes out entirely. If when the phosphorus commenced to burn, the glass globe contained five pints of air, it will be found that it only contains four pints after it is extinguished. If a lighted candle be now placed in the four remaining pints of air in the globe it will not burn, but it would have done so freely before the phosphorus was consumed in the five pints of air. This shows that the properties of the air in the globe have become entirely changed by the act of combustion with the phosphorus, and that the gas which supported combustion—to employ a common term—has been all “used up.” The gas which supports combustion is oxygen and the experiment described, by which one part of oxygen has been removed out of five volumes of air proves that the proportion of oxygen in the atmosphere is only as one to four of another gas, which cannot and does not support combustion.

The remaining four volumes or pints of air left in the globe is nitrogen, which amounts to eighty in every hundred parts of the atmosphere. (There is also a little carbonic acid gas in the air—one part to every two thousand.) The regular proportions of oxygen and nitrogen described in the atmosphere, taken from any part of the globe have been found to be constant; they are permanently elastic gases,

and simple bodies. In the atmosphere they are mechanically, not chemically combined.

By burning phosphorus in the manner described we obtain nitrogen gas, which when washed, by agitating it with water in a glass vessel, may be employed for an elastic gas cushion or spring, in a vessel containing mercury, or any metal where atmospheric air cannot be employed, because of the oxygen it contains having such an affinity for the metals as to rust them and destroy their properties.—Nitrogen is transparent, has no taste or smell, is a perfect non-supporter of combustion, and exhibits no tendency to combine with other substances. Although four volumes of nitrogen is inhaled into the lungs for every one of oxygen during the act of respiration, it produces no effect upon the human system.

At one period it was taught and believed by chemists that oxygen was the sole cause of combustion—that when it was not present combustion could not take place. This is true so far as it relates to combustion in the atmosphere; but some bodies will burn without oxygen being present. Thus iron and sulphur, when heated, will combine with much light and heat; and phosphorus, when introduced into chlorine gas, will take fire and burn, combining with the gas. The true definition of combustion is, “chemical combination attended with light and heat.”

Although nitrogen is termed the *most inert* of gases, because it cannot be made to unite directly with any element and only forms combinations when one or both elements are in the nascent state, yet it plays a most important part in the animal, vegetable and mineral kingdoms. It might be readily supposed that as oxygen is *vital air*, and as it alone performs a part in the act of breathing—the nitrogen being inert—that the greater the quantity of this gas mixed with nitrogen the more healthy it would be for respiration; it is not so, however. It is remarkable that the most powerful of acids, aquafortis, is composed of five parts of oxygen (vital air) and only one of nitrogen.—*Scientific American*.

Blackberries are very beneficial in cases of dysentery. The berries are healthful eating. Tea made of the roots and leaves is good; and syrup made from the berries excellent.

Artificial Propagation of Fish.

This subject is attracting considerable attention in our country at present. In 1856, the Legislature of Massachusetts adopted a resolution, under which commissioners were appointed to examine into it and report such facts as they could obtain, to the next General Court. Three commissioners were selected—R. A. Chapman, Henry Wheatland, and N. E. Atwood—their report has been published, and is now before us. Mr. Atwood, who is a practical fisherman, and also a learned ichthyologist, was intrusted with the charge of making experiments and observations and confined his attention to trout. His experiments were conducted at Sandwich, but they turned out failures. He obtained 15,000 eggs, and they all rotted; this he attributed to the character of the water in which the experiments were conducted.—November is the spawning season of trout and salmon, during which period, they are very poor, and should not be allowed to be caught or sold.

Although the experiments with the eggs of trout failed with Mr. Atwood, the commissioners believe that such fish may be profitably cultivated. They state it as their belief that there are many farms in the hilly regions of Massachusetts, containing trout streams, that, with little pains, might be made to yield a greater income than the land itself. Much might be done to increase their value without resorting to artificial breeding. The preparation of suitable ponds or pools of deep water and gravelly beds, suitable for spawning, with guards to prevent the destruction of fish by freshets, would greatly increase the stock. "But the process of artificial propagation," says the report, "is so simple and easy that when trout become an object of care, we cannot doubt they will be multiplied and protected by this method.—Many millions of fine trout may thus be produced annually, and what is now regarded as a mere temptation to waste time, may be made not only to minister to luxury and health, but become an important branch of productive industry. In addition to this, fish ponds with borders of trees and shrubbery, add to the beauty of a landscape, and increase the value of a farm."

It is stated that in England, salmon have been propagated with success, and that of

300,000 of their spawn 275,000 were hatched artificially.

It is our opinion that this subject deserves great attention, because in many of our creeks and rivers that once teemed with the finest salmon, not one is now caught. When the first settlers came to our shores, they found salmon in every running brook having easy access to the sea; now such fish are alone obtained from the "Northern Provinces."

But there is one feature connected with fish culture, which we wish to impress indelibly upon the minds of those who wish to re-stock our streams with an abundance of good fish; that is, they must keep the streams clean and pure, if they expect to succeed.

It is true that salmon and other fish have been banished from rivers and creeks in which they once abounded; but this was not owing to the great depredations of fishermen, as has generally been supposed.

The erection of saw mills on creeks and rivers destroyed the spawn of both salmon and trout, and it has been found that the former fish have been banished from all rivers on which chemical works have been established. They love clear running streams of water, and flee from saw-dust and the drainage of chemical works in rivers, as people do from a pestilence—they are a sensible fish.

Scientific American.

From the Scientific American.

Ants—Their Senses and Habits.

"Go to the Ant, thou sluggard," is advice not only against sluggishness, but is applicable to other things, particularly as it relates to what may be accomplished by the combination of individuals under great disadvantages.

The only medium which ants possess for acquiring and imparting information appears to be their antennæ, or feelers, having neither of the two most useful senses for learning which larger animals possess—seeing nor hearing—and if they have the sense of smelling it is very limited. I have placed sugar within half an inch of their trail to a sugar barrel, and they would pass without noticing it until one of them accidentally strayed within touch of it, when others would soon follow by feeling their way. I have placed a thin strip of wood not wider than the length of an ant, across their

trail, and it embarrassed them; they would turn towards each end of it and return, until some bold fellow ventured across it, when the rest followed. I caught a number of them on a chip with sugar on it, placed near their trail, and gently removed it to the opposite side, about a foot off; when they finished their repast they went feeling around in every direction, and often returned even when they had got within two inches of the great thoroughfare where the multitude was passing; they neither saw nor heard them; but as soon as they struck the trail they took the homeward course, and ceased to return.

The above experiments were made with the small red ants. When they first discovered the sugar those returning from it would extend their antennae to those they met, make one or two short jumps, and the latter would quicken their pace, as if satisfied with the information.

Whenever ants discover the trail of another tribe in rather suspicious proximity to their own dwellings, if they are of equal size with themselves, they sally out in a body to attack them; but if they are a size or two smaller—the very small ones they never notice—one or two guards take possession of the trail, and cross and recross it with the most unwearied diligence for hours and days together, and wo to all they catch. But scores will pass within one or two inches of a guard without either being aware of the other's presence.

Notwithstanding the want of these senses a community of large ants will explore an area of ten to fifteen acres, and if one of them makes a discovery of food, intelligence of it will be circulated so rapidly that they will form a trail to it in one night, though it be one hundred and fifty yards off. Their sense of feeling is extremely delicate, for by it they can spread an alarm, distinguish a friend from a foe, follow a trail over a smooth floor, and convey any intelligence which may be necessary for them to know. In their wars they are very destructive, and this appears to be a provision of nature to prevent their increase. Two ants of about equal size will fight to the death without yielding. In a regular battle between two tribes it is their custom to carry off the dead and wounded from the field.

H. POLLARD.

Lexington, Mo., June, 1857.

[Of all insects, ants seem to have the most perfect powers of communicating with each other, yet they emit no sound, like bees, but only use signs and motions, employing their antennae for such purposes; and, as our correspondent states, if they have the power of vision, it must be very feeble. Still, "if they see not" it is not for want of eyes—these they possess.—*Scientific American*.

Astonishing Feat of a House Spider.

It would seem that there is no living thing so obnoxious as not to find admirers. What creatures so repulsive as rats and spiders? Yet the London Quarterly finds something beautiful and even loveable in the former, and Dr. Asa Fitch, in Harper's Monthly, labors to show that the "latter delicate little objects" are worthy of all praise. In support of these views he tells the following curious story concerning a heroic spider who captured a snake. The affair came off last summer in the store of Charles Cook, in the village of Havana, Chemung county, N. Y., and is attested by the Hon. A. B. Dickinson of Corning, "who himself witnessed the phenomenon, as did more than a hundred others present."

An ordinary looking spider of a dark color, in body not larger than that of a common house fly, had taken up its residence, it appears, on the under side of a shelf beneath the counter of Mr. Cook's store. What may we suppose was the surprise and consternation of this little animal on discovering a snake, about a foot long, selecting for its abode the floor underneath, only two or three spans distant from its nest? It was a common silk snake, which, perhaps, had been brought into the store unseen in a quantity of saw-dust with which the floor has been recently "carpeted." The spider was well aware, no doubt, that it would inevitably fall a prey to this horrid monster the first time it should incautiously venture within its reach. We should expect that to avoid such a frightful doom, it would forsake its present abode, and seek a more secure retreat elsewhere. But it is not improbable that a brood of its eggs or young was secreted near the spot, which the parent foresaw would fall a prey to this monster if they were abandoned by their natural guardian and protector. We

can conceive of no other motive which should have induced the spider so pertinaciously to remain and defend that particular spot, at the imminent risk of her own life, when she could so easily have fled and established herself in some secure corner elsewhere. But how, we may well ask, was it possible for such a weak tender little creature to combat such a powerful mail-clad giant? Her ordinary resort, that of fettering and binding her victim, by throwing her threads of cobwebs around it, it is plain would be of no more avail here than the cords upon the limbs of the unshorn Sampson. * *

By what artifice the spider was able in the first of its attack to accomplish what it did, we can only conjecture, as its work was not discovered until the most difficult and daring part of its feat had been performed. When first seen, it had placed a loop around the neck of the serpent, from the top of which a single thread was carried upward and attached to the under side of the shelf, whereby the head of the serpent was drawn up about two inches from the floor. The snake was moving around, and around incessantly, in a circle as large as its tether would allow—wholly unable to get its head down to the floor, or to withdraw it from the noose; while the heroic little spider, exulting no doubt in the success of its exploit, which was now sure beyond a peradventure, was ever and anon passing down to the loop and up to the shelf, adding thereby an additional strand to the thread, each of which new strands being tightly drawn, elevated the head of the snake gradually more and more.

But the most curious and skillful part of the performance is yet to be told. When it was in the act of running down the thread to the loop the reader will perceive it was possible for the snake, by turning his head vertically upward, to snap at and seize the spider in his mouth.—This had, no doubt, been repeatedly attempted in the earlier part of the conflict; but, instead of catching the spider, his snakeship had only caught himself in an additional trap. The spider, probably by watching each opportunity when the mouth of the snake had been turned towards her, adroitly, with her hind legs, as when throwing a thread around a fly, had thrown one thread after another over the mouth of the snake, so that he was now perfectly muzzled, by a series of threads placed over it vertically, and these were held from

being pushed assunder by another series of threads placed horizontally, as my informant states he particularly observed. No muzzle or wicker work for the mouth of an animal could be woven with more artistic regularity and perfection; and the snake occasionally making a desperate attempt to open his mouth, would merely put these threads upon a stretch.

The snake continued his gyrations, his gait becoming more slow, however, from weakness and fatigue; and the spider continued to move down and up the cord, gradually shortening it, until at last, when drawn up so far that only two or three inches of the end of his tail touched the floor, the snake expired, about six days after he was first discovered.

A more heroic feat than that which this little spider performed is probably nowhere upon record—a snake a foot in length hung by a common house spider! Truly, the race is not to the swift, nor the battle to the strong! And this phenomenon may serve to indicate to us that the intelligence with which the Creator has endowed the humblest, feeblest of his creatures, is ample for enabling them to triumph in any emergency in which He places them, if they but exercise the faculty He has given them. It is only the slothful, cowardly, timorous, that fail, and they fail not so much before their enemies as before their own supineness.

Regulations

Of the fifth N. C. State Fair, to be held in Raleigh, commencing on the 20th Oct., 1827.

1. All members of the N. C. State Agricultural Society will be furnished with a badge of membership, upon payment of the annual tax of \$2, and will be required to wear the same during the Fair. This badge will admit the ladies of his family and children under 18 years of age, during the fair.

2. Members of the Society and families alone will be admitted on Tuesday, the day for examination and awards by the judges. All competitors are expected to be present. The public will be admitted on and after Wednesday, at 10 o'clock. Price of admission 25 cents. Children and servants 12½ cents. Clergymen, Editors and pupils of charitable Institutions admitted free.

3. Agricultural Societies and Institutions

from other States are invited to send Delegates. Such Delegates will be presented with a complimentary card.

4. All exhibitors who intend to compete for the premiums of the Society, must become members of the same, and have their articles on the ground and entered at the Secretary's Office in Reception Hall, at or before 5 o'clock on Monday evening, Oct. 19th, without fail, so that they may be arranged in their respective departments, and in readiness for examination by the Judges on Tuesday morning at 10 o'clock.

5. The regulations of the Society must be strictly observed by exhibitors, otherwise the Society will not be responsible for the omission of any article or animal not entered under its rules.

6. No article or animal entered for a premium can be removed or taken away before the close of the exhibition. No premium will be paid on articles or animals removed in violation of this rule.

7. All articles and animals entered for exhibition must have cards attached with the number as entered at the Secretary's Office; and exhibitors in all cases must obtain their cards previous to placing their articles or animals on the Fair grounds.

8. Those who wish to offer animals or articles for sale during the Fair must notify the Secretary of such intention at the time of entry.

9. The Executive Committee will employ a day and night guard, and will use all reasonable precaution in their power, for the safe preservation of all articles and stock on exhibition, but will not be responsible for loss or damage that may occur. Exhibitors must give attention to their articles or animals during the Fair, and at the close of the exhibition attend to their removal.

10. The awarding committee or judges, selected for the next Fair, are earnestly requested to report themselves to the chairman of the Executive Committee at Reception Hall, upon the grounds of the Society, on Tuesday morning, the 20th day of October, 1857.

11. In no case can the Judges award special or discretionary premiums; but will recommend to the Executive Committee any articles in their class which they may deem worthy of

special notice and for which a premium has not been offered.

12. The Judges on animals will have regard to the symmetry, early maturing, thorough breeding, and characteristics of the breeds which they judge. They will make proper allowances for the age, feeding and condition of the animals, especially in the breeding classes, and will not give encouragement to over fed animals.

13. No stock of inferior quality will be admitted within the grounds; a committee will be appointed to rule out all below a medium grade.

14. Animals to which premiums have been awarded must be paraded around the track, that visitors may see the prize animals.

15. No person will be allowed to interfere with the Judges during their adjudications.

16. The several Superintending Committees will give particular direction to all articles in their departments, and see that all are arranged in the best order possible to lessen and facilitate the labors of the Judges in their examination.

17. The Superintendents will attend each set of Judges in their respective departments and point out the different articles or animals to be examined, will attach prize cards to the articles, or flags to the successful animals after the Judges' reports have been made up and delivered to the chairman of the Executive Committee.

18. The judges will withhold premiums on animals or articles in their opinion not worthy; though there be no competition.

19. Premiums of \$25, and upwards will be awarded in *Plate*, unless the person to whom the award is made shall prefer the payment in money.

20. Stock brought to the Fair for sale, will have an enclosed lot adjoining the Fair grounds assigned them, with water convenient, where they can be kept at the expense of the owner.

21. Articles manufactured in the State, when brought in competition with foreign articles will take precedence, other things being equal, and the foreign article be entitled to a second premium.

22. Articles not enumerated will be entitled to discretionary premiums at the option of the Executive Committee.

23. The Chief Marshal, with efficient aids,

will be in attendance during the hours of exhibition to keep proper order.

24. No exhibitor will be permitted to enter more than one animal in each of the sub-classes.

25. Animals, when duly entered, are well provided for by the Society, without charge to the owner, and cannot be removed from the ground, except by permission of the Executive Committee.

26. All machines, implements, or other products of mechanical art, must be exhibited by their respective makers, or inventors, or improvers, or their assignors, to or for whom only premiums for such articles will be awarded.

27. Every machine or implement offered for a premium, must be so designated or described as will serve to identify it to future purchasers, and also the selling price of the article must be stated and marked on the labels and in the published reports of premium articles.

28. Efficiency, cheapness and durability will be regarded as chief excellencies in every machine or implement.

29. The Chief Marshal will call the Judges at 10 o'clock on Tuesday morning—assemble them at his tent on the grounds—furnish them, with the printed list of premiums, also with blank books in which to register their awards, and have the Judges conducted by the assistant marshals to their respective departments of the exhibition.

30. The Marshal and his aids shall give particular attention to the proper arrangements of all articles exhibited in their respective departments; point out the articles or animals to the Judges, and otherwise facilitate the examination by the Judges.

31. The track will be open for the trial of harness and saddle horses every day during the Fair.

32. A band of music will be in attendance each day, during the hours of exhibition.

33. An efficient police will take charge of the grounds during the night.

THOMAS RUFFIN, Ch. Ex. Com.

WILLIAM D. COOKE, Secretary.

Judges to Award Premiums,

At the next Annual Fair to be held at Raleigh, commencing on the 20th October.

Thoroughbred Horses.

Edmund Townes, Granville, Charles Manly, Wake, Thomas McGehee, Person.

Quick Draught and Saddle Horses.

Payton A. Dunn, Wake, John Lewis, Caswell, James Turner, Granville.

Heavy Draught Horses.

John B. Leathers, Orange, John J. Shaver, Rowan, James Twitty, Warren.

Jacks, Jennetts and Mules.

William K. Lane, Wayne, John L. Bridgers, Edgecombe, J. W. B. Watson, Johnston.

Cattle—Drovers.

George W. Johnson, Caswell, Thomas D. Meares, New Hanover, John S. Dancy, Edgecombe.

Durhams, Herefords, Ayrshires, Holsteins and Alderneys.

Henry K. Burgwyn, Halifax, Dr. E. A. Crudup, Franklin, Samuel Hargrave, Davidson.

Grades and Natives.

Wm. A. Eaton, Granville, Sylvester Smith, Wake, Dr. James E. Williamson, Caswell.

Imported Cattle.

Dr. Wm. R. Holt, Davidson, Henry T. Clark, Edgecombe, C. H. K. Taylor, Granville.

Milk Cows.

Wm. H. Strother, Franklin, James Sloan, Guilford.

Working Oxen.

S. S. Royster, Granville, A. T. Mial, Wake, R. R. Bridgers, Edgecombe.

Fat Cattle.

Eldridge Smith, Wake, John Hutchins, Wake, Seth Jones, Wake.

Sheep.

Dr. J. M. Davidson, Mecklenburg, Paul C. Cameron, Orange, John S. Yancey, Warren.

Goats.

John S. Burrell, Granville, John O'Rorke, Wake, Rielly Crawford, Wake.

Swine—Large Breed.

J. E. Lankford, Franklin, Ashley Saunders, Johnston, Chas. R. Eaton, Granville.

Swine—Small Breed.

Wm. R. Smith, Halifax, Wm. K. Lane, Wayne, Laurence Hinton, Wake.

Swine—Grades and Natives

Wm. R. Pool, Wake, C. Wooten, Lenoir, Wm. O. Green, Franklin.

Poultry.

Maj. John Caldwell, Mecklenburg, Thomas J. Blacknall, Granville, David Hinton Edgecombe.



THE CAROLINA CULTIVATOR.

Devoted to Agriculture, Horticulture, and the Mechanic Arts.

WILLIAM D. COOKE, Editor, and Publisher.

VOL. 3.

RALEIGH, N. C., SEPTEMBER, 1857.

NO. 7

PUBLISHED ON THE FIRST OF EACH MONTH.

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Miscellaneous.

Benefit of Agricultural Fairs.

No fact is more apparent to the reflecting mind than the immense benefits Agricultural Fairs have contributed to our material prosperity. They have contributed more to our vigorous growth as a nation, than all the gold California can pour into our country for ages. They have awakened a spirit of inquiry in the breasts of thousands, who have elaborated and made known their experience to the world—through the Agricultural Press—contributing their experiments to the general stock of information (which at best is made up of atoms) garnered together,—a rich legacy of facts, from

which the principles of *Truth* shall be deduced by the hand of the future historian. All this has been done quietly. The silent step of agricultural progress has not been noted by the world—as it should have been—for the simple reason that it took time to nurture in man the high obligation he owed to his Maker, his country and himself, to use and develop that which was intrusted to his hand, that it might be improved, and the true design of our Creator carried out.

And what is an Agricultural Fair? Is it a place where the most superior specimens of agricultural products are exhibited to the view of the visitors? Yes. What then? is that all the object, the aim, the end to be accomplished? If so let them go by the board. But a higher object is to be accomplished—has been, and will continue to be—the interchange of thought among those who have produced the articles on exhibition. It is in this light that Agricultural Fairs are accomplishing the grand results which will continue to rank us as a practical, farming and progressive people. It is not enough that we should see the superior crop of grain, &c., but we should have the man with us, that we may know by what process he produced it, so that his co-laborers may know and realise the facts which are brought before them in its most practical form. It is not enough that we see fat cattle, but we see the husbandman who produced them, that our less fortunate husbandmen may, by inquiry and

observation, be aroused to the necessity of doing likewise—so that the object of the Fair may be the means of perpetuating the progressive spirit of political and rural economy.

Fairs, rightly conducted, are great stimulants to good and thorough cultivation of the soil—Nothing is so well calculated to create as healthy a feeling, or develop so thoroughly the true dignity of Nature's noblemen, as this theatre, where all may meet in the exhibition of the arts of peace and usefulness: where those who have failed to realise their fond anticipations from the exhibition of their products, rejoice in the success of their neighbors. It is this feature which endears them to all good men who know the wants of our farmers, and who have, from the earliest stage of their existence, stood by them, believing they were destined to accomplish as much good in their sphere of usefulness, as Education has in hers.

The benefits accruing from Agricultural Fairs are of a two fold nature, and apparent to all. Where the Fairs are made an object of attraction, you will find the greatest amount of thriftiness and prosperity prevailing in the sections which contribute to, and take an interest in, their prosperity. The benefits flowing from them are not to be estimated in a pecuniary sense. There are benefits conferred on the agricultural interest through the influence of this institution, which command our most hearty admiration and respect for those public benefactors of our race who have nurtured and expanded this germ, so that agriculture should take once more her rank as one of the most honorable pursuits of man.

T. C. W., Genesee Farmer.

The Horse Charm;

OR THE GREAT SECRET OF TAMING HORSES.

The horse-caster is a wart, or excrescence, which grows on every horse's fore legs and generally on the hind legs. It has a peculiar rank, musty smell, and easily pulled off. The ammoniacal effluvia of the horse seems peculiarly to concentrate in this part, and its very strong odor has a great attraction for all animals, especially canine, and the horse himself.

For the oil of cumin, the horse has an instinctive passion—both are original native of Arabia,

and when the horse scents the odor, he is drawn toward it.

The oil of Rhodium possesses peculiar properties. All animals seem to cherish a fondness for it, and it exercises a kind of subduing influence over them.

The directions given for taming horses are as follows—

Procure some horse-caster, and grate it fine. Also get some oil of Rhodium and oil of cumin, and keep the three separate in air-tight bottles.

Rub a little oil of cumin upon your hand, and approach the horse in the field, on the winward side, so that he can smell the cumin. The horse will let you come to him then without any trouble.

Immediately rub your hand on the horse's nose, getting a little of the oil on it. You can then lead him anywhere. Give him a little of the castor on a piece of loaf sugar, apple or potato.

Put 8 drops of oil of Rhodium into a lady's silver thimble. Take the thimble between the thumb and middle finger of your right hand, with the fore-finger stopping the mouth of the thimble, to prevent the oil from running out whilst you are opening the mouth of the horse.

As soon as you have opened the horse's mouth, tip the thimble over upon his tongue, and he is your servant. He will follow you like a pet dog.

Ride fearless and promptly, with your knees pressed to the side of the horse, and your toes turned in and heels out; then you will always be on the alert for a shy or sheer from the horse, and he can never throw you.

Then if you want to teach him to lie down, stand on the right, or left side; have a couple of leather straps about six feet long; string up his left leg with one of them round his neck; strap the other end of it over his shoulders; hold it in your hand, and when you are ready, tell him to lie down, at the same time, gently, firmly and steadily pulling on the strap, touching him lightly on the knee with a switch.—The horse will immediately lie down. Do this a few times, and you can make him lie down without the straps.

He is now your pupil and friend. You can teach him anything, only be kind to him, be gentle. Love him, and he will love you. Feed

him before you do yourself. Shelter him well, groom him yourself, keep him clean, and at night always give him a good bed, at least a foot deep.

In the winter season don't let your horse stand out a long time in the cold, without shelter or covering; for remember that the horse is an aboriginal native of a warm climate, and in many respects, his constitution is as tender as a man's.

Production of Sexes at Will.

"Many curious investigations," says Dr. Gardner's recent work, "have been instigated in regard to this point in the world of nature. It is a matter of familiar knowledge that the male and female characteristics of the higher species of the animal creation, are not produced in the same individual, as they are in the great majority of the higher species of plants. The organs, as will be seen, from which the two are evolved, are, however, so nearly related to each other in intimate nature, that the one may be readily mistaken for the other in the earliest period of their formation. Physiologists now incline to the opinion that the fertilizing vesicle is merely a germ vesicle, in a somewhat more exalted state of development. Mr. Knight has shown that plants, like the oak, that bear the male and female flowers on separate individuals, may be made to produce either at will, by regulating the supply of light and heat according to the end in view. If the heat be excessive as compared with the light, male flowers only appear; but if the light be in excess female flowers are produced. He also found that whenever the eggs of birds are not allowed to be fertilized until immediately before they are laid, and therefore their own intrinsic development has been carried to the highest possible pitch before renewed vivification of the germ vesicle is effected, as many as six out of every seven of the birds subsequently hatched proved to be males. * * Quetelet believes that the relative ages of the male and female parent, influence the sex of the offspring produced, to a very considerable extent. In support of this theory M. Hofacker has shown that when the father is considerably younger than the mother, the proportion of female to male children is generally as ten to nine; but that when, on the contra-

ry, the father is nine years older than the mother, the proportion of male offspring to female is as five to four and when eighteen years older, as two to one. In a general way, more males of the human species are born into the world than females. If all Europe be included in the estimate, the proportion of male to female births is about 106 to 100. Possibly, if Quetelet's views be based on truth, this preponderance on the side of males may be due to the fact that in civilized communities men, from prudential and other motives, mostly marry women younger themselves. But there are other reasons why this preponderance exists. Three male children are born dead to every two females."

Ten Rules to be Observed in Making Butter.

In making good butter there are several nice operations to be gone through with, which require an eye to cleanliness, forethought, and experience.

1. On milking clean, fast yet gently, regularly twice a day, depends the success of the dairyman. Bad milkers should not be tolerated in a herd; better pay double the price for good ones.

2. Straining is quite simple, but it should be borne in mind that two pans about half full each will produce a greater amount of cream than the same milk if in but one pan; the reason of this is the greater surface.

3. Scalding is quite an important feature in the way of making butter in cool weather; the cream rises much quicker, milk keeps sweet longer, the butter is of a better color, and churns in one-half the time.

4. Skimming should always be done before the milk becomes loppered; otherwise much of the cream turns into whey and is lost.

5. Churning, whether by hand or otherwise, should occupy fifteen minutes.

6. Washing in cold soft water is one of its preserving qualities, and should be continued until it shows no color of the milk by the use of the ladle; very hard water is highly charged with lime, and must in a measure impart to it alkaline properties.

7. Salting is necessarily done with the best kind of ground salt; the quantity varies according to the state it is taken from the churn; if

soft, more—if hard, less; always taking taste for the surest guide.

8. First working, after about 24 hours, is for the purpose of giving it greater compactness.

9. Second working takes place at the time of packing, and when the butter has dissolved the salt, that the brine may be worked out.

10. Packing is done with the hands or with a butter-mall; and when butter is put into wooden vessels, they should be soaked two or three days in strong brine before using. After each packing, cover the butter with a wet cloth, and put a layer of salt upon it: in this way the salt can easily be removed at any time, by simply taking hold of the edges of cloth.

Butter made in this way will keep any length of time required.—*J. C. Adams, G. Farm.*

Saving Honey by Destroying Drones.

It is a certain fact demonstrated by Huber, and proved again and again, since his time, that the impregnation of the queen lasts *three years*; at least, this being the case, there are seasons when the apiarian will be enabled to secure the greatest quantity of honey, by preventing his bees from swarming and at the same time destroying all the drones. The plan is simple and effectual. For the first, it is only necessary to contract the entrance to the hive to a space 5-32 of an inch wide; this will allow a worker bee to pass in and out, but will detain the queen in the hive. This space will also keep back the drones, and if it is proposed to destroy them, (as they certainly ought to be, if the hive is prevented from swarming, and as I shall presently show,) then take a box, say six inches square, and insert a wooden tube $\frac{1}{2}$ inch in aperture and about $1\frac{1}{2}$ inches long, so that it shall be flush with the outside of the box, but project inside about an inch (if the box is half inch stuff the above length of tube will just do). Place this tube in the lower corner of the box, so that it shall overlay the entrance just enough to let a drone enter the tube, from the hive. The rest of the entrance may be contracted to the 5-32 of an inch. Now, place a glass on the open top of the box, covering it all but 5-32 of an inch at one end. The drones will endeavor to go out with the workers, but cannot. They will then follow along till they come to the opening in the tube,

and go through it into the box. They cannot go out of the box into the air, on account of the space being only 5-32 of an inch wide, neither can they go back to the hive, because the tube projects inside, and is not accessible from the bottom or side of the box. If a worker bee goes into the box, of course the slit will let him out (or rather I should say it, being neuter).

When a large number of drones are collected, they may be immersed in water, and the box put back.

It is incredible the amount of honey consumed by the drones, even where there are but a few hundred. But in ordinary hives, where there are sometimes over 1,000, they consume probably as much as is ordinarily laid up in the surplus boxes.

For gentlemen who do not wish to increase the number of their hives, this plan is obviously an excellent one.

The contracted entrance is very suggestive to these who wish "to go to town," or "to church," and are fearful of loosing a swarm. A very good way is to cut the slit out of sheet lead, and place it before the entrance. It will be perceived, also, that this space will entirely prevent the queen from going into the top boxes and placing brood among the honey combs. We give our actual experience in the matter.

This article is written in haste, but we shall be glad to write again if it is not sufficiently clear.

APIS.

Whitemarsh, Pa

The Eye, and how to See.

From an article in the Scientific American, with the above caption, we extract the following:

The difference between the use of one and two eyes is not generally known. One eye has been found sufficient for the general purposes of life. There are instances on record of persons having the sight of but one eye, and yet were ignorant for years of having a blind one. There are also a great number of persons who have lost an eye by accident, and with the remaining one have performed all the duties required of the two. Two eyes, however, are better than one, for the field of vision with one is only about 150°, while with two it is about 200°.—It was long supposed, by many, that we saw

objects twice as luminous with two as with one eye; but this is a mistake, for objects are seen as brightly with one as with two eyes.

The pupil of the eye increases in size to admit as much light, when one eye is shut, as when both of them are open; therefore, so far as mere brightness is concerned, the loss of one eye is no disadvantage. Sir David Brewster has determined this by experiment. Two eyes enable us to see solid objects in a higher relief, and all distances in nature more perfectly than one eye. With one eye, however, we see the direction in which an object or point is situated more distinctly than with two eyes. By monocular vision (one eye) we see the exact point where a near object strikes a more distant one in line; this we cannot do with both eyes directed to it, for while they see a near object distinctly, they do not perceive *two* objects in line accurately; hence one eye only is used in shooting with a rifle at a mark, because it takes cognizance correctly of the sight on the rifle, and the mark in a line beyond the needle—further off. Some have supposed that practice alone gives us an appreciation of distances with the eyes—one or two—and this idea of acquiring all knowledge experimentally is taught by some works on philosophy, but it is a mistake. An artist in this city (New York) distinguished for his skill and fine tastes, who has been deprived of the use of one eye for a number of years has told us that in a dim light, such as the dusk of evening, he has never learned to judge well of distances; in other respects, however, monocular vision is more advantageous to him than otherwise in pursuing his profession.

To prove that we can appreciate distances more correctly with two eyes than with one, let any person endeavor to thread a tolerably large needle held out at arms length, and he will discover how deceptive monocular vision is, regarding distance. The needle's eye will appear further from him than it really is, and he will continually thrust the thread in a line beyond it.

A HINT FOR THE SEASONS.—The simplest and best way of preserving woollens through the summer from the destruction of the moths, is to wrap them well up after brushing them and beating them in cotton or linen cloths.—The moth can pass neither. Two covers, well wrapped around and secured from the air, will be effectual. An old sheet will answer, and save all expense of camphor, &c.

The Army Worm.

We find the following in relation to the history and habit of the Army Worm in the National Intelligencer:

"A friend who has made entomology a subject of study, furnishes us with some of the results of his investigations into the character, habits and history of the army worm, of which so many complaints have arisen in various parts of the country. The oat patch west of the Smithsonian grounds supplied him with specimens and an opportunity to observe much concerning these devouring pests. Our friend's first impression, and which indeed he retains, was that the worm in question is identical with the grass worm of the South. Present appearances all attest this identity, but it will require the complete round of transformation to be gone through with before it can be considered certain.

"This worm destroys corn, clover, grain, and every kind of grass, and in the South is found very abundant on the grass, and weeds between the rows of cotton. Its caterpillar, just before changing into the chrysalis, hides under stones, and where the ground is broken under clods of dirt. Their enemies are formidable, the largest being the toad, which stuffs itself with them almost to bursting. The stomach of a toad taken in the oat patch above referred to, having been cut open, was filled with these worms, mixed with a few wings of beetles.—The army worm has another enemy in the black larva of what seems to be a *necrophorous* which preys upon the caterpillar. Besides these there is a small ichneumon, or at all events a parasitical fly, which deposits its eggs all over the back of the caterpillar and they, when matured, spin cocoons, which send forth a cloud of other flies to repeat the process.

"Specimens of the army worm sent hither from Maryland were entirely destroyed by a fly much like the common house fly, but with a lighter colored series of rings around the abdomen, which is hirsute and tipped with brown belonging to the family of *muscidae*. It is a merciful provision of nature that, as these worms, increase, so do the parasitical foes which feed upon and destroy them. But for this the consequences would be terrible indeed to all the hopes of the agriculturist."

Bones and Manure.

The value of bones to the farmer says the American Farmer, is admitted by all; and the improved condition of the Agriculture of England, dates from the introduction of their use, in connexion with the turnip culture. The great difficulty is in obtaining a supply, and a further one of preparing them for the soil.— Various suggestions have been made, to effect this latter object, which we have published from time to time, and now add another from the N. Jersey Farmer, which has the recommendation at least of simplicity:

“Last fall a lot of bones were thrown in a heap of horse manure in the barn yard, and for no other purpose than to get them out of sight. To this heap the manure of the horse stable was daily added. In the spring, upon carting out the manure, the bones were found apparently the same as when thrown in—whole and sound; but upon being handled, were found to be soft; when lifted would fall to pieces of their own weight; when exposed to the air would crumble and become as ashes, emitting a strong and offensive odor. This incident led to a trial of the same experiment last Spring in the same manner, and with the same result.

“We do not pretend to fix the chemical process by which this result is attained; we merely know that such is the result. And if a result so happy in its effects is produced at so little trouble, and with such little cost, our farmers may well spare an odd day in gathering together the old bones lying about their farms, and for the mere trouble of gathering them, add to their lands one of the most fertilizing materials that can be obtained.

“Let our readers avail themselves of this suggestion, and in preparing their manure heap for the winter, have collected together a pile of old bones, and let them be scattered through your heaps where you throw your horse manure, and you will find when the manure is carted out in the Spring, in place of old bones, a manufactured A. No. 1 Bone Dust.”

—
PRESERVATION OF FLESH, ETC.—M. Robert has contrived a method of preserving animal and vegetable substances, which is easily managed, cheap, and admits of their external ap-

pearance, as well as their peculiar characters being retained. It consists in exposing the partly dried substances to an atmosphere of sulphuric acid gas, and then covering them with a thin film of albumen mixed with molasses. The flesh of animals that have been killed by blowing air into the breast can not be preserved in this way. In the first instance the flesh is freed from, and partly dried in a current of air; the limbs are then hung in an air-tight chamber, so as not to touch, and the sulphurous acid introduced. The time during which the meat is left in contact with the gas depends upon the size of the pieces. For pieces of from four to six pounds, ten minutes is sufficient; pieces of two hundred weight require twenty or five-and-twenty minutes. They are then removed from the chamber, dried in the open air, and brushed over with the albuminous varnish. Flesh thus prepared may be cooked in the usual way, and after being kept a long time, is quite as fresh and good as when the animal has recently been slaughtered.— This method of preservation is said to be equally applicable to game and poultry, with or without the feathers, fish, fruit and vegetables. For transport, the preserved substances are packed in casks, into which tallow or fat is poured at as low a temperature as possible. This prevents shaking, which is always very prejudicial. The preservation of flesh, etc., by this method has received the sanction of the French Minister of Public Health.

Meadow Muck.

The value of muck as a fertilizing agent, is always in the precise ratio of the vegetable matter it contains—all extraneous matters serving only to increase the bulk without adding any percentage to the fructifying energies of the mass, or increasing its value as a stimulant of vegetable life. When, however, it is added to tough, viciid and tenacious clays, the admixture of sand may not be considered injurious, as the mechanical action of this earth will tend to overcome the innate adhesiveness which characterizes such soils; but as an application for loamy lands, in which there is little albuminous matter, the muck will be valuable in proportion to the fibrous or decomposable vegetable matter it contains.

All muck, when taken from its bed, is pos-

sessed of a certain degree of acidity, which renders it necessary to mix it with lime or wood ashes to neutralize the acidity before applying it to the soil. This may also be effected by exposing it to the atmosphere, or to the action of frost, for a time; or it may be sweetened by mixing it with manure in the yards or compost heap.

Muck is a most valuable fertilizer, when properly managed, and the farmer who is so fortunate as to possess the means of obtaining it in sufficient quantity, may bring his lands to any degree of fertility he desires, and at comparatively small cost. For corn and potatoes, as well as for garden vegetables, muck is one of the most valuable stimulants known.—*N. E. Farmer.*

Lightning Conductors.

The Following suggestions in the *Country Gentleman*, by Mr. E. J. McCarthy, relating to cheap lightning rods meets our approbation:

"If one human life is saved through the means of this publication, those who are engaged in sale of conductors at such exorbitant prices that but few purchase, should not allow themselves to complain, but feel thankful for the timely hint. If the property contained in one barn even, is saved from destruction by this simple means, the writer will feel amply rewarded for his trouble.

There being no dispute about the perfect safety of conductors to life and property, the only questions to be considered are, which are the safest and cheapest? There is no person familiar with the subject who will not say that soft iron rods in one continuous length, projecting to a sufficient height above the highest point of a building, and terminating in a well or cess-pool, or in damp earth, are the best electrical conductors known. Now, instead of erecting a single rod from the center of the building, and running over the roof, with fancy points and colored insulators, such as are hawked about and sold at high prices, put up as many as you have chimneys at least, and one at each gable end or high projecting point of every out-building. To do this cheaply, purchase a coil of quarter-inch iron wire, and as many small staples as may be required; saw off as many pieces of bone of proper length and size, with a hole of suitable dimensions

for the wire to pass through and with a ladder and the help of one man, a person of ordinary ingenuity can put up a dozen rods in half a day, at a cost of *one cent a foot*. Who will run the risk of life and property, when perfectly safe conductors can be erected for less than a dollar a piece, including the cost of putting them up?

Sowing Cabbage seed in September.

It has been our custom for years to call upon our readers to sow cabbage seed of different sorts early in September with the view of raising plants to be set out in the early part of November. Our object in doing so is, to induce you to lay the ground work of a supply of cabbages for your family early next summer and through Autumn, and we therefore repeat our advice again.

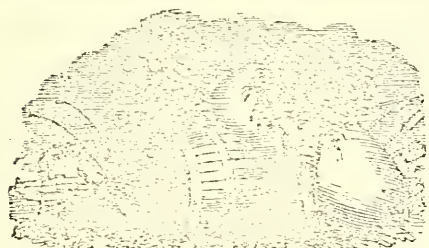
Preparation for the bed.—Select a spot an openly exposed border, or part of a similarly exposed bed; manure it well, dig in the manure a spade deep, rake until you obtain a perfectly fine tilth, then divide it into as many parts, as you have different sorts of cabbage seed. This done sow each kind separately, rake the seed very lightly in, then put down the earth gently with the back of your spade so as to bring it immediately in contact with the seed to quick germination; then dust the bed with a mixture of 4 parts soot and 2 parts plaster.

The following varieties will ensure a continuous supply of fine delicious cabbages from early summer next year throughout autumn, viz:

Early Imperial, Early York, Early Nonpareil, Early Vanak, Early Sugar Loaf, Large York, Flat Dutch, and Large Ox-heart.

If the weather should not be seasonable at the time that you sow the seed, give the bed a free watering; continue this every evening until the plants come up and until rains occurs. Just as your plants get above ground dust them with a mixture of 4 parts *ashes*, 2 parts *soot*, and 1 part *flour of sulphur*, first having watered the plants so as to make the mixture adhere to the leaves. Repeat this two or three or four successive evenings with the following decoction. Put half a bushel of horse dung into a barrel, together with 1 quart of soot and

1 oz. of sulphur tied in a bag; pour hot water thereon, and when the water becomes cool fill up the barrel with cold water, and in 24 hours it will be fit for use. The barrel may be filled up several times. In six or eight weeks the plants will be large enough to be set out to stand the winter.



THE CAROLINA CULTIVATOR.

RALEIGH, SEPTEMBER, 1857.

APOLOGY.—We hope our patrons will accept as a sufficient apology for the appearance of three numbers together at so late a date, that the operations in our office have been greatly embarrassed by sickness among the hands and the absence of the Proprietor. "Better late than never," however, and we now send out to subscribers a large, and, we hope, profitable body of reading upon the greatest interest of the State.

Chinese Molasses.

We are very much obliged to our friend for the following note and the accompanying specimen. The experiments now making so generally with the new article of Sugar Cane are deeply interesting, and every such contribution from careful observers is entitled to the reader's earnest attention. These experiments have been eminently successful in this region. We hope they will be repeated, until it is fully demonstrated that the cultivation of the Chinese Sugar Cane is a profitable branch of agricultural industry.

Raleigh, September, 1857.

W. D. COOKE, Esq.—The Chinese Sugar Cane seed which you had the kindness to give me early in the spring past, I planted as soon

as our farmers commenced planting Indian corn, in hills, 10 seeds to the hill, and the hills four feet apart each way, and cultivated just as you would our common broom-corn—thinning down to 8 stalks in the hill, and keeping the suckers pulled out. About the time the seed or heads commenced turning black, I had the fodder stripped off, the stalks cut down, seed taken off with about one foot of the stalk, and now commenced the operation of molasses making in North Carolina. Each stalk was pressed through a crushing mill made by Mr. Albert Johnson, of Raleigh, in order to get the juice, which answered an admirable purpose. From my crop, which occupied a space of ground 15 by 25 feet, I obtained 15½ gallons of juice, and did not use about 100 very small stalks. This juice, I boiled in two different iron pots—and after keeping them both to boiling heat *only*, for an hour, constantly skimming the foam off, I caused them to boil *actively*—putting to each five gallons of juice a common tablespoonful of slacked lime. After *six* hours boiling, I obtained three and a half gallons of excellent syrup, a specimen of which, I herewith send. The specimen is not as bright as it would have been, had I used a brass kettle—however, I consider it superior to any sugar-house molasses.

Very Respectfully,

W. WHITAKER, JR.

THE SEASON.—The season is now so far advanced that we may speak with confidence of the general yield of the crops in the United States, which we rejoice to say, has been on the whole excellent and abundant. The improved quality of the wheat has been the subject of frequent remark in many places, and the corn crop will exceed in quantity those of many past years. The probability is that a general decline of prices will take place, and farmers should be prepared for the change.

THE FAIR.—We again call the attention of our readers to the coming Fair, and urge upon them the duty of sustaining the credit of the State by large contributions to the exhibition. Remember that *six thousand dollars* will be distributed in premiums.

A man without desire and without want, is without invention and without reason.

EXCHANGES.—We have on hand late numbers of several valued exchanges, for which the publishers have our thanks, viz: The Eclectic, Godey, Arthur, Peterson, and other leading Magazines of the day. Time will not allow of a more specific notice.

No better time than now for turning under stubble ground.

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Advertisements.

FALL TRADE, 1857.

JOHN N. GORDON, GROCER AND COMMISSION MERCHANT, AND DEALER IN METALS, 14th Street, near the Exchange Hotel, Richmond, Va., offers for sale—

Orleans and Coffee Sugars, various grades,
Loaf, Crushed, Granulated and Powdered Sugars.
Laguira, Rio and Old Government Java Coffee.
Orleans and West India Molasses.

Pure Cider Vinegar.

Sperm, Adamantine and Tallow Candles.

Soaps, Fancy and Brown.

Sole Leather, good and damaged.

All sizes Flat, Round, Square Swedes, } IRON.

American Hammered,

English Refined,

English and American rolled,

English and American blistered Steel.

German, Cast and Shear Steel.

Broad Plough Iron, 6 to 12 inch.

American, English and Russia Sheet Iron.

Oval, Half Oval and half round Iron.

Nail Rods, American and Swedes.

Band, Scroll and Hoop Iron.

Horse Shoes, assorted.

Horse and Mule Shoe Iron.

Iron Plate, Pig and Bar Tin.

Sheet Zinc, Spelter, and Spelter Solder.

Sheathing, Brazier's and Bolt Copper.

McCormick's and Palmer Mould Boards.

Particular attention given to the sale of

Wheat, Flour and Country Produce generally.

4,000 Acres of Land for Sale.

THIS Land lies in Chesterfield District, S.C., immediately on the Pee Dee river, and the Cheraw and Darlington Railroad, and by the latter part of the present year, will be within a few hours ride of the city of Charleston. There are about 1,300 acres of the land cleared, which

PRODUCES FINELY

without manure of any kind. The balance is densely covered with a heavy growth of White Oak, Ash, Elm, Dogwood, Hickory, Cotton, Walnut, Poplar, &c., with a

CANE BRAKE

extending near over the entire Tract. About 200 acres of the Tract lie in the Sand Hills, which for Health and Fine Springs of water, is

PROBABLY UNSURPASSED

by any of this State. The Tract will be divided to suit purchasers. For particulars address

E. B. C. CASH,
Cheraw, S. C.

June 1857.

"Learn of the Mole to plough."—Page.

WYCHE'S CULTIVATING PLOW, PATENT-
ED 8th of January, 1856—called the Mole;
Plow; with vertical cutters near the edge of a horizontal share, for dividing the furrow slice, and a curved cutter on the rear of the share for turning the whole in towards the plow, or as far on the opposite side of the share as may be desired. Adapted to sifting, lifting, breaking turfy or hard land, subsoiling, and many other purposes. Is light, cheap, and strong; and supposed to be the most perfect pulverizer in use.
For license to sell, with directions for manufacturing, address.

W. E. WYCHE,
Brookville, Granville Co., N. C.

June 16, 1856.

3—11.

NORTH CAROLINA INSTITUTION

FOR THE DEAF AND DUMB AND THE BLIND,
RALEIGH, N. C.—SESSION OF 1857-'58.

Board of Directors.

WILLIAM H. MCKEE, M. D., *President.*

S. H. YOUNG,
JNO. C. PALMER,
W. W. VASS,

A. M. LEWIS,
Q. BUSTEE,
D. G. FOWLE.

Officers of the Institution.

WM. D. COOKE, A. M., *Principal.*

JAMES A. WADDELL, M. D., *Vice-Principal.*

Teachers in the D. & D. Department.

GEO. E. KETCHAM, | CHAS. M. GROW,

Teachers in the Blind Department.

J. A. WADDELL, M. D. | MRS. S. C. WADDELL,

MISS M. E. COOKE.

Mrs. L. E. GROW, *Matron.* | Mrs. E. LITTLE, *Housekeeper.*
S. LITTLE, *Steward.*

The next session of this Institution will commence on the first Monday of September. Any intelligent and healthy white resident of the State, between the ages of 5 and 20, whether Deaf and Dumb or Blind, may, if the means of education are wanting, be admitted to the school free of charge. The terms for others may be learned from the Principal. Such pupils as are capable of decided improvement, are not only instructed in the ordinary branches of a common education, but receive such accomplishments as may best fit them for success in life. Music, drawing, needle-work, bead-work, and suitable handicraft arts will form a considerable part of the course through which they pass. Careful attention will be paid to their religious, moral, and physical improvement, and every effort will be made, not only to render them comfortable, but to promote their highest welfare. Pupils should by all means enter early in September. For any information in regard to the Institution, address,

WILLIAM D. COOKE, Principal,
Raleigh, N. C.

NORTH CAROLINA

MUTUAL INSURANCE COMPANY

AT THE ANNUAL MEETING OF THE North Carolina Mutual Insurance Company, held on the 9th inst. the following persons were elected Directors and Officers for the ensuing year:

OFFICERS OF THE COMPANY.

T. H. Selby, *President.*
H. D. Turner, *Vice President.*
H. S. Smith, *Sec'y and Treas.*
John H. Bryan, *Attorney.*

T. H. Selby, *ex officio.* }
John R. Williams, } *Executive Committee.*
C. W. D. Hutchins, }

This Company has been in successful operation for more than 7 years, and continues to take risks upon all classes of property in the State, (except Steam Mills and Turpentine Distilleries,) upon favorable terms. Its Policies now cover property amounting to \$4,500,000, a large portion of which is in Country risks; and its present capital is nearly Seven Hundred Thousand Dollars, in bonds properly secured.

The average cost of Insurance upon the plan of this Company has been less than one third of one per cent. per annum, on all grades of property embraced in its operations.

All communications in reference to insurance should be addressed to the Secretary, post paid,
H. S. SMITH, Sec'y.

PREMIUM THRESHING MACHINES.

The North Carolina State Fair, held at Raleigh, awarded the First Premium for our celebrated Threshing Machine.

THIS Machine has been fully tested in this State and Virginia, and approved by all who have used it on account of its simplicity of construction, utility, and durability. We have no hesitation in saying they are the best *Threshers* now in use. They are economical in cost, simple in construction, and less liable to get out of working order. We also make a *Hub Horse Power*, which is adapted to either four or six horses. This Power is all that a planter can desire to do the power-work on a plantation; it is very simple in its construction, celebrated for its strength, and not easily got out of repair; and, from the same quantity of power, can do more work than any other now in use.

It is unnecessary for us to particularize further as to the advantages of our Thresher and Power, but respectfully solicit the attention of all, to call and examine for themselves at our manufactory, where they can be seen in full operation; and any recommendation that may be wanted will be given, from planters, and others of this city, who have used them for the last four years.

All orders promptly attended to.

Repairing done at short notice, on application, at our manufactory, on Washington St., opposite Jarrett's Hotel, Petersburg, Va.

J. W. DAVIDSON & BRO.

Ap., 1857—3m

ISN'T IT SO!

USE ARTHUR'S Celebrated Self-Sealing Cans and Jars, and you will have fresh fruit all the year at Summer prices.

FRESH FRUIT

Full directions for putting up all kinds of Fruit and Tomatoes, accompany these cans and jars.

IN WINTER

They are made of Tin, Glass, Queens' Ware, and Fire and Acid proof Stone Ware. The sizes are from pints to gallons. These cans and jars are entirely open at the tops, and nest, to secure economy in transportation.

BETTER

For sale by Storekeepers throughout the United States.

THAN

Descriptive circulars sent on application. Orders from the trade solicited.

Be sure to ask for "Arthur's." It has stood the test of two seasons, having been used by hundreds of thousands of families, hotel and boarding-house keepers.

SW ETMEATS.

We are now making them for the million.

ARTHUR, BURNAM, & GILROY,
Manufacturers under the Patent,
N. E. cor. Tenth and George Sts.,
PHILA DELPHIA.

A CHANCE FOR THE MILLION.

THE subscribers are desirous of securing an Agent, either male or female, in every town and county of the Union, to engage in a light and pleasant business, by which they can make, with ordinary energy, from \$5 to \$10 per day. Every information will be given by addressing with stamp, to pay return letter

S. A. DEWEY & CO.,

Ap., 1857—8w

Box 151, Philadelphia, Pa.

H. D. TURNER, GENERAL BOOK AGENT.

No. 1 Fayetteville Street, Raleigh, N. C.,

PUBLISHER OF THE
SUPREME COURT REPORTS OF NO. CA.,

*Has for sale, in quantities or by retail, an
extensive assortment of Books and*

Stationary, Comprising Greek,

Latin, French, Spanish and

English Books; School

Books; Blank

Books; Juve-

nile and

Toy

Books;

Miscellaneous

Works; with all the

New Publications as

they issue from the Press: al-

so a large assortment of Station-

ary and Fancy Articles.

SCHOOL BOOKS.—All the different kinds of Primers, Spelling Books, Reading Books, Grammars, Arithmetics, Geographies, Atlases, Histories, Dictionaries, &c.; also Works on Astronomy, Algebra, Chemistry, Philosophy, Mathematics, Surveying, Geometry, Botany, Book-keeping, Rhetoric, Mensuration, Trigonometry, Geology, Mineralogy, Cookery, Farming, Gardening, Medicine, Theology, Penmanship, Architecture, &c., &c. He has always on hand the Standard English Law Reporter and Digests, and every Treatise on Particular subjects; together with the various State Reports and Digests, and a general assortment of Law Books of every description.

BLANK BOOKS.—Ledgers, Journals, Day Books, Invoice, Cash, and Letter Books, Receipt and Bill Books, Memorandum, Bank and Pass Books, Ciphering and Writing Books.

RELIGIOUS BOOKS.—Family, Pocket, and School Bibles, Testaments, Hymn Books, Prayer Books, and various religious works, by approved authors.

SACRED MUSIC BOOKS.—Piano Music, Music Paper, and Musical Instruments.

STATIONERY AND FANCY ARTICLES.—Consisting of Foolscap and Letter Paper, Note, Folio Post and Drawing Paper, Morocco, Tissue, Pith, Tracing and Marble Paper; Knives, Steel Pens, Quills, Wafers, Sealingwax, Pocket Books, Albums; Ink Powder, India, Indelible, Japan, Black, Blue, and Red Inks; Prints, Gold and Silver ever-pointed Pencils, Seals, Wafer Stamps, Sand and Sand Boxes; Scrap-Books, Visiting Cards, Card Cases, Gold and Silver Paper, Inkstands, Slate and Slate Pencils, Lead Pencils, Bristol and Ivory Boards, Chess Men, Maps, Battledores, Rules, India Rubber, Carmine Sancers, Newman's, Reeves's, and American Water Colors, &c.

N. B.—BOOKBINDING done, in all its various forms, with neatness and dispatch.

GARDEN-SEEDS.—To be had at the North Carolina Bookstore, Garden-Seeds, warranted fresh and good, crop of 1855, selected from the most approved Seedsmen and Gardeners in the Northern Country.

February, 1857.

TWENTY-FIVE WITNESSES;

OR, THE

Forger Convicted.

JOHN S. DYE IS THE AUTHOR,

Who has had 10 years experience as a Banker and Publisher, and Author of *A series of Lectures at the Broadway Tabernacle* when, for 13 successive nights, over

50,000 PEOPLE

greeted him with Rouds of Applause, while he exhibited the manner in which Counterfeiters execute their Frauds, and the Surest and Shortest Means of Detecting them! *The Book Note Engravers all say that he is the greatest Judge of Paper Money living*

GREATEST DISCOVERY of The Present Century for

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Describing every Genuine Bill in existence, and exhibiting at a large glance every Counterfeit in Circulation. Arranged so admirably, that Reference is easy and Detection instantaneous.

No Index to examine! No pages to hunt up! But so simplified and arranged, that the Merchant, Baker and Business Man can see all at a Glance.

ENGLISH, FRENCH AND GERMAN.

Thus each may read the same in his own Native Tongue.

MOST PERFECT BANK NOTE LIST PUBLISHED, also a List of *All the Private Bankers in America*. A complete summary of the Finance of Europe and America will be published in each edition, together with all the important NEWS OF THE DAY. Also

A SERIES OF TALES

from an old Manuscript found in the East. It furnishes the most complete History of

ORIENTAL LIFE

describing the most perplexing positions in which the Ladies and Gentlemen of that Country have been so often found. These Stories will continue throughout the whole year, and will prove the most entertaining ever offered to the Public.

Furnished weekly to Subscribers only, at \$1 a year. All letters must be addressed to

JOHN S. DYE, Broker,

Publisher and Proprietor,

70 Wall Street, New York.

FARMER'S HALL

RALEIGH, N. C.

The subscriber is general agent for the sale of Agricultural Implements and Farming utensils, Field seeds, Fertilizers, &c. &c. Almost all the articles brought to the late Fair are kept on sale and are offered at manufacturers prices with no cost of transportation, as they were brought free by the Railroad.

There is also a new fire proof Ware House on the lot, in which all articles on consignment are stored. The following are some of the articles brought to the late Fair: Horse Powers, Wheat Fans, Corn Drills, Field Rollers, Corn and Cob Crushers, Harrows, Cultivators, and Plows of every size and description.

JAMES M. TOWLES.

Book Binding.

JOHN H. McCARTERET & SON.

RALEIGH, N. C.

ARE still carrying on the BOOK BINDING business in all its branches at the old stand over "Turner's N. C. Bookstore."

One Dollar a Year. Circulation, over 100,000 Copies Weekly.

Wyche's Cultivating Plow.

PATENTED 26TH FEBRUARY, 1856. (THE Blind Plow,) awarded \$20 premium at the last N. C. State Fair; with cutting blades in the place of a moldboard; cuts, divides and turns over the soil; depositing the finer parts in the furrow, and turning over the turf, clods, &c., on the surface. Is cheap, light, and lasting, and easy to both driver and team. Admirably adapted to almost any purpose for which the plow is used.

For license to sell, with further information, address
W. E. WYCHE.

Brookville, Granville Co. N. C.

June 15, 1856.

5—tf.

J. H. Gough, Oxford, N. C., solicits orders for the above plows.

DOCTOR HOOFLAND'S

CELEBRATED

GERMAN BITTERS.

PREPARED BY

DR. C. M. JACKSON, PHILAD'A, PA.

WILL EFFECTUALLY CURE

LIVER COMPLT, DYSPEPSIA, JAUNDICE,

Chronic or Nervous Debility, Disease of the Kidneys, and all diseases arising from a Disordered Liver or Stomach.

Such

as Constipation,

Inward Piles,

Fulness or Blood to the

Head, Acidity of the stomach,

Nausea, Heartburn, Disgust for food,

Fulness or Weight in the Stomach, Sour Eructations, Sinking or Fluttering at the pit of the stomach, Swimming of the Head, Hurried and difficult Breathing, Fluttering at the Heart, Choking

or suffocating sensations when in a lying posture, Dimness of vision, Dots or webs before

the sight, Fever and Dull Pain in the

Head, Deficiency of Perspiration,

Yellowness of the skin and eyes,

Pain in the Side, Back, Chest,

Limbs, &c., Sudden flushes of Heat, Burning in

the Flesh, Constant

imaginings of evil,

and great depression of

Spirits,

The proprietor in calling the attention of the public to this preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the diseases for which it is recommended.

It is no new untried article but one that has stood the test of a ten years' trial before the American people, and its reputation and sale is unrivaled by any similar preparations extant. The testimony in its favor given by the most prominent and well known Physicians and individuals in all parts of the country is immense, and a careful perusal of the Almanac published annually by the proprietor, and to be had gratis of any of his agents, cannot but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained.

Principal Office and Manufactory No. 96 Arch St. Philadelphia, Pa.

TESTIMONY FROM N. CAROLINA.

ASTONISHING EFFECTS FROM THE GERMAN BITTERS.

Certificate of Dr. W. SMITH, of Pine Hill, Richmond Co., N. C., March 4, 1854.

Dr. C. M. Jackson, Philadelphia.—Dear Sir,—I have been a subject of Dyspepsia in its worst form,

for the last five years. Such was my condition for 12 months that the physicians and all who saw me said I must die. While in this condition, I was carried to the watering places in Virginia, Tennessee and North Carolina, but was not benefited by any water to which I was taken. While on my way home, I stopped a week at Rutherfordton, a small village in N. Carolina to try the effect of some Chalybeate water in that place. About the last of the week, I went into a drug store to get some medicine for my child and myself. There were several of the village physicians in the store, and one of them seemed to take some interest in my case, and after asking me some questions, said he had been a dyspeptic, and had been greatly benefited by the use of "Dr. Hoofland's German Bitters," prepared by you, and he insisted that I should try the Bitters. He also called the next day at my room, and insisted so much that I would try them, that I asked him to get me one bottle. He did it, and I commenced taking it as directed, and I do say I was more benefited by it than all the water and medicine I had ever taken.

After reaching home, one of my neighbors came to me for a prescription and medicine, (he a dyspeptic,) and I gave him nearly all the Bitters I had left; which effected much good in his case. He has often called on me for more of the same kind of medicine, saying he was more benefited by it than any other he had taken, but I have not been able to get any more for him or myself since; will you, therefore, please ship me a dozen or more as soon as possible.

Respectfully yours,

W. SMITH, M. D.

GREAT CURE OF PILES.

Certificate of W. J. ATWOOD, Huntsville, Yorkin Co., N. C., Nov. 1, 1853.

Dr. C. M. Jackson—Dear Sir,—Allow me to express to you my sincere thanks for your discovery of a medicine, which, to say the least of it, has effected a cure that all other medicines that I have taken have entirely failed to do. "Hoofland's German Bitters," have cured me of the most stubborn and aggravated case of the PILES that, perhaps, ever fell to the lot of man. My case is not a stranger to this community, as I am well known in this and the surrounding counties, and can truly say that my recovery has astonished all my friends and relations, as I had tried everything recommended, and nothing did me any good until I was prevailed upon to try the Bitters. You are at liberty to make any use of this communication, for the benefit of the afflicted, as you may think proper.

Truly yours,

W. M. T. ATWOOD.

These Bitters are entirely vegetable, possessing great advantage over every mineral preparation, as they never prostrate, but always strengthen the system.

Price 75c. per bottle. Sold by Druggists and Storekeepers in every town and village in the United States and Canada, and by

WILLIAMS & HAYWOOD,

November 1856.

Raleigh.

WARRENTON FEMALE COLLEGIATE INSTITUTE
WARRENTON, N. C.

THE 30th session of this school will commence on the 3d of January next, prepared to give thorough instruction in all the branches of female education. Pupils received at any time. All charges from time of entrance.

Terms per Session:

| | |
|--|---------|
| Board, washing, lights and fuel in rooms, | \$60 00 |
| English tuition, | 12 50 |
| Music on Piano, Guitar, Melodeon, with use of instrument, each | 23 00 |
| Oil Painting, | 15 00 |

Persons wishing further information, will please apply to
GRAVES, WILCOX & CO.
December, 1855.

GRENOBLE HOSE.

THIS superior hose, manufactured from the finest of HEMP, is adapted and especially recommended for the use of Fire Engines, Mills, Manufactories, Ships, Steamboats, Railroads, Hotels, Garden uses, &c. Its advantages over other Hose are its extreme lightness and cheapness. It will stand as much pressure as Leather Hose, and has proved to be as durable; and all the care it needs after use is to thoroughly dry it in the open air.

For sale, and orders received in sizes from 1 to 7 inches in diameter, in lengths from 100 to 200 feet, by

CHARLES LENZMANN,
51 Cedar st., New York.

Sole Agent for the United States.

Certificates of its superior qualities from the Washington and Brooklyn U. S. Navy Yards; from Alfred Carson, Esq., Chief Engineer of the New York Fire Department; James Smith, Esq., New York, and L. Burton, Esq., Waterford, Fire Engine Builders, and from some of the most prominent mills and manufactories at Lowell, &c., can be examined at the office of the advertiser. feb 18-6m

LYON'S KATHAIRON

Has now become the standard preparation for the HAIR. Its immense sale, nearly

1,000,000 BOTTLES.

Per year, attests its excellence and great superiority over all other articles of the kind. The ladies universally pronounce the

KATHAIRON

To be, by far, the finest and most agreeable article they ever used. It RESTORES the Hair after it has fallen out; INVIGORATES and BEAUTIFIES it, giving to it a rich glossy appearance, and imparts a delightful perfume. Sold by all dealers throughout the United States, Canada, Mexico, Cuba and South America, for

25 Cents per Bottle.

HEATH, WYNKOOP & CO., PROPRIETORS,
63 LIBERTY STREET, NEW YORK.

Manufacturers, also, of Perfumery of all kinds, and in great variety. 6m.

SANDS' SARSAPARILLA,

IN QUART BOTTLES,

FOR PURIFYING THE BLOOD,

AND FOR THE CURE OF

Scrofula, Ricumatism, Stubborn Ulcers, Dyspepsia, Salt Rheum, Fever Sores, Erysipelas, Pimples, Boils, Mercurial

Diseases, Cutaneous Eruptions,

Liver Complaint, Eranthitis,

Consumption, Female

Complaints,

Loss of Appetite, General Debility, &c.

TO RELIEVE SUFFERING has been the object of the humane and philanthropic of all ages.—Before the practice of medicine became a science, the sick were publicly exposed in the open air, and every passer-by named the remedy he considered most suitable for the complaint. We possess at the present day, through the agency of the press, a more reliable mode of conveying information to our suffering fellow creatures. Those afflicted with Scrofula, Cutaneous or Eruptive Diseases, will find in the columns of almost every newspaper and periodical published certificates and testimonials from those who have

been speedily cured of these dreadful complaints by the purifying and powerfully regenerative qualities of Sands' Sarsaparilla.

ASTONISHING CURE.

PATERSON, N. Y.

Messrs A. B. & D. Sands: Gentlemen:—Having witnessed the most beneficial effects from the use of your SARSAPARILLA, it gives me pleasure to send you the following statement in regard to my son. In the Spring, he took a severe cold, and after eight weeks of severe suffering the disease settled in his left leg and foot, which swelled to the utmost. The swelling was lanced by his physician, and discharged most profusely. After that, no less than eleven Ulcers formed on the leg and foot at one time. We had five different physicians, but none relieved him much; and the last winter found him so emaciated and low that he was unable to leave his bed, suffering the most excruciating pain. During this time the bone had become so much affected, that piece after piece came out, of which he has now more than twenty-five preserved in a bottle, varying from one half to one and a half inches in length. We had given up all hopes of his recovery, but at this time we were induced to try your SARSAPARILLA, and with its use his health and appetite began immediately to improve, and so rapid was the change that less than a dozen bottles effected a perfect cure.

With gratitude, I remain truly yours,
DARIUS BALLARD.

We, the undersigned, neighbors of Mr. Ballard cheerfully subscribe to the facts of the above statement.

H. & R. S. HYATT,

GEO. T. DEAN,

A. M. TROWBRIDGE,

C. EASWOOD.

Prepared and sold, wholesale and retail, by A. B. D. SANDS, Druggists and Chemists, 100 Fulton St., corner of William, New York.

Sold also by Druggists generally.

Price 51 per bottle; six bottles for \$5.

11y

AYER'S PILLS

FOR ALL THE PURPOSES OF A
FAMILY PHYSIC.

There has long existed a public demand for an effective purgative Pill which could be relied on as sure and perfectly safe in its operation. This has been prepared to meet that demand, and an extensive trial of its virtues has conclusively shown with what success it accomplishes the purposes designed. It is easy to make a physical Pill, but not so easy to make the best of all Pills—one which should have none of the objections, but all the advantages of every other. This has been attempted here, and with what success we would respectfully submit to the public decision. It has been unfortunate for the patient hitherto that almost every purgative medicine is acrimonious and irritating to the bowels. This is not. Many of them produce so much griping pain and revulsion in the system as to more than counterbalance the good to be derived from them. These Pills produce no irritation or pain, unless it arises from previous existing obstruction or derangement in the bowels. Being purely vegetable, no harm can arise from their use in any quantity; but it is better that any medicine should be taken judiciously. Minute directions for their use in the several diseases to which they are applicable are given on the box. Among the complaints which have been speedily cured by them we may mention Liver Complaint, in its various forms of Jaundice, Indigestion, Langor and Loss of Appetite, Listlessness, Irritability, Billious Headache, Billious Fever, Fever and Ague, Pain in the side and Loins, for in truth all

these are but the consequence of diseased action of the liver. As an aperient, they afford prompt and sure relief in Costiveness, Piles, Colic, Dysentery, Humors, Scrofula and Scurvy, Colds, with soreness of the bowels, Ulcers and impurity of the blood; in short any and every case where a purgative is required.

They have also produced some singularly successful cures in Rheumatism, Gout, Dropsey, Gravel, Erysipelas, Palpitation of the Heart, Pains in the Back, Stomach and Side. They should be freely taken in the Spring of the year, to purify the blood and prepare the system for the change of seasons. An occasional dose stimulates the stomach into healthy action, and restores the appetite and vigor. They purify the blood and by their stimulant action on the circulatory system, renovate the strength of the body, and restore the wasted or diseased energies of the whole organism. Hence an occasional dose is advantageous even though no serious derangement exists; but unnecessary dosing should never be carried too far, as every purgative medicine reduces the strength, when taken to excess. The thousand cases in which a physic is required cannot be enumerated here, but they suggest themselves to the reason of every body; and it is confidently believed this pill will answer a better purpose than any thing which has hitherto been available to mankind. When their virtues are once known the public will no longer doubt what remedy to employ when in need of a cathartic medicine.

Being sugar wrapped they are pleasant to take, and being purely vegetable, no harm can arise from their use in any quantity.

For minute directions, see the wrapper on the box.

PREPARED BY

DR. JAMES C. AYER,

Practical and Analytical Chemist, Lowell, Mass.—

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CHERRY PECTORAL.

FOR THE RAPID CURE OF

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ASTHMA AND CONSUMPTION.

This remedy has won for itself such notoriety for its cures of every variety of Pulmonary disease, that it is entirely unnecessary to recount the evidences of its virtues in any community where it has been employed. So wide is the field of its usefulness, and so numerous the cases of its cures, that almost every section of the country abounds in persons publicly known, who have been restored from alarming and even desperate diseases of the lungs by its use. When once tried its superiority over every other medicine of its kind is too apparent to escape observation, and where its virtues are known, the public no longer hesitate what antidote to employ for the distressing and dangerous affections of the pulmonary organs which are incident to our climate. And not only in formidable attacks upon the lungs, but for the milder varieties of Colds, Coughs, Hoarseness &c., and for children it is the pleasantest and safest medicine that can be obtained.

As it has long been in constant use throughout this section, we need not do more than assure the people its quality is kept up to the best that it ever has been and that the genuine article is sold by—

P. F. Hoxford and Williams & Hayward, Raleigh,
N. C., June, 1867.

4-7.

GREEN SAND MARL OF NEW-JERSEY.
THE NEW-JERSEY FERTILIZER COMPANY.
It is now prepared to receive orders for this important Manure. For all lands upon which ashes are beneficial, the Marl is more than a substitute. Professor Cook, in his Annual Report to the Legislature of New Jersey, says:

"The value of these Marls is best seen in the rich and highly cultivated district which has been improved (almost made) by their use. But it may be interesting to examine the causes of their great value in agriculture, and to compare them with other fertilizers. For example: The potash alone may be taken, at an average as five per cent of the whole weight of the Marl; a bushel, when dry, weighs eighty pounds; and in the proportion mentioned, would contain four pounds of potash. This is nearly as much as there is in a bushel of unleached wood ashes."

And again: "It is probable that the great value of the Marl is to be found in the fact that it contains nearly all the substances necessary to make up the ash of our common cultivated plants."

Price, delivered on board vessels at the wharves of the Company at Portland Heights, Raritan Bay, New-Jersey, *Seven Cents per Bushel.*

For further particulars, see Circular, sent free of postage. Orders for other fertilizers will receive prompt attention. Address either of the undersigned.

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N. B.—Those wishing Marl for Spring use should order it immediately, to secure its early shipment. Orders will be filled in rotation.

NORTH CAROLINA MUTUAL LIFE INSURANCE COMPANY, Raleigh, N. C. This Company insures the lives of individuals for one year, a term of years, or for life, on the MUTUAL principle, the assured for life participating in all the profits of the Company. For policies granted for the whole term of life, when the premium therefor amounts to \$20, a note may be given for one half the amount of the premium bearing interest at 6 per cent, without guaranty.

The prompt manner in which all losses have been paid by this Company, together with low rates of premium, present great inducements to such as are disposed to insure.

SLAVES are insured for a term of from one to five years, for two-thirds their value.

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PIANOS, MELODEONS, AND MUSIC.



PRICES GREATLY REDUCED.

HORACE WATERS,

No. 333 BROADWAY, NEW YORK.

AGENT FOR THE SALE OF THE BEST BOSTON AND NEW YORK PIANOS AND MELODEONS.

THE LARGEST ASSORTMENT OF MUSIC MERCHANDISE IN THE UNITED STATES. Pianos from five different Manufacturers, of every variety of style—from those in plain rosewood cases, for \$200, to those of the most elegant finish, for \$1000. No House in the Union can come in competition for the number, variety, and celebrity of its instruments, nor the *extremely low prices* at which they are sold.

HORACE WATERS' MODERN IMPROVED PIANOS.

with or without iron frames, have, in their new scale and improved action, a power and compass of tone equalling the grand, with the beauty and durability of the square piano. The Press and first music masters have justly pronounced them equal if not superior to any other make. *They are guaranteed to stand the action of every climate.*

HORACE WATERS' MELODEONS (tuned the equal temperament,) superior in each desirable quality—sole agent for the sale of S. D. & H. W. Smith's celebrated Melodeons—can also furnish Melodeons of all other makers. Prices from \$15 to \$125; for two sets of reeds, \$150; two banks of keys, \$200; Organ pedal bass melodeons, 275 and \$300.

MUSIC—One of the largest and best catalogues of Music now published; sold at greatly reduced prices. Music sent to wherever ordered, post paid. Personal attention paid to all orders received by Mail. Second hand Pianos taken in exchange for new. Catalogues sent by mail. Great inducements offered to agents to sell the above. A liberal discount to dealers, teachers, seminarians and clergymen.

Each Instrument guaranteed to give satisfaction, or purchase money refunded. **SECOND HAND PIANOS AT GREAT BARGAINS** constantly in store; prices from \$0 to \$140.

TESTIMONIALS FROM PROFESSORS, AND OPINIONS OF THE PRESS.

Says "The Christian Intelligencer" "The Horace Waters Pianos, for elegance of construction, superior depth and sweetness of tone, were pronounced by competent judges at the Crystal Palace to be in all respects masterpieces of Mechanical skill. Having inspected a large number of the Horace Waters' Pianos, we can speak of their merits, from personal knowledge as being of the very best quality."

Nothing at the State Fair displayed greater excellence in any department than the Piano-Forte manufactured by Horace Waters, of this city.—*Churchman*.

The following is taken from the "Christian Inquirer": "The finest among the many pianos at the Crystal Palace are those placed there by Horace Waters, whose instruments are always popular."

The following we take from the "Christian Advocate" Memphis Tenn.: "The Horace Waters' Pianos are built of the best and most thoroughly seasoned material. From all we can learn of this establishment—said to be the largest in the United States—we have no doubt that buyers can do as well, perhaps better, at this time than any other house in the Union."

"Mr. Waters has been long established and is favorably known. We speak from experience, when we assure our readers that his prices are below those usually charged for articles in his line."—*Jacksonian N. J.*

"Your instruments are a sensible improvement upon American Pianos, and on honor to the skillful manufacturer. There is no doubt but they will be appreciated by the public and all admirers of true merit."—*Oscar Comelant*.

"I take great pleasure in pronouncing them instruments of a superior quality both in tone and touch."—*August Gockh*.

"For power of tone, depth of bass, and brilliancy of treble, together with accuracy of touch, they are equal to any make I am acquainted with, and I cordially recommend them to those wishing to purchase."—*F. C. Taylor*.

"Our friends will find at Mr. Waters' store the very best assortment of music and of pianos to be found in the United States, and we urge our southern and western friends to give him a call whenever they go to New York."—*Graham's Magazine*.

"We consider them worthy of special attention, from the resonant and exceedingly musical tone which Mr. Waters has succeeded in attaining."—*N. Y. Musical World and Times*.

There is one which, for beauty of finish and richness and brilliancy of tone, equals, if it does not excel, anything of the kind we have ever seen. It is from the establishment of Horace Waters. Being constructed of the best and most thoroughly seasoned material, and upon improved principles, it is capable of resisting the action of the climate, and of standing a long time in tune.—*Savannah Georgian, Savannah, Ga.*

Says the "Evening Mirror," "They (the Horace Waters' Pianos) are very superior instruments and the maker may confidently challenge comparison with any other manufacturer in the country, as regards their outward elegance, and quality of tone and power."

COOKE'S NEW MAP OF NORTH CAROLINA, NOW READY FOR DELIVERY.

THIS Large and Beautiful MAP of North Carolina is now ready for delivery. It is one of the best engraved maps that has ever been published of any State in the Union, and is sold at the low price of Eight Dollars.

No Maps will be sold except by subscription. Agents will be found in most of the counties of the State, and persons desiring a copy of the Map can send their names directly to "Wm. D. Cooke, Raleigh, N. C."

AGENTS WANTED.

A number of counties in the State are yet unengaged. Persons wishing to canvass for the Map will be furnished with the terms, &c., upon application to the undersigned.

Agents are also wanted for South Carolina and Virginia. The Map includes Virginia as far north as Richmond, and South Carolina as far south as the junction of the Congaree and Wateree rivers.

TO EDITORS.

Errors in this State, who, having advertised the Map for six months, are entitled to a copy with pleasure, to communicate the fact to the undersigned, that their copies may be forwarded by first opportunity.

W. D. COOKE,

Raleigh, N. C.

Report of Professors Emmons and Mitchell, to the North Carolina State Ag. Soc., on COOKE'S NEW MAP OF NORTH CAROLINA.

I have had frequent opportunities of testing the correctness of Mr. Cooke's new Map of North Carolina and parts of the adjoining States. This Map is worthy of special notice: 1st, from the fact that it embraces those parts of Virginia, South Carolina and Tennessee which are of immediate interest to the citizens of this State. 2d, that the eastern part of the State is compiled from data obtained through the determinations of the Coast Survey. 3d, it contains an entirely new feature in its *profile* extending along the line of the Railroad survey from Goldsboro' to Asheville, which exhibits the heights of many interesting points, as well through the central and western parts of the State lying east of the mountains as amongst the Mountains themselves.

In addition to the foregoing it may be justly said that Mr. Cooke has taken unwearied pains to correct the geography of the different counties, and to insert the prevalent names of places, those for instance which have come into use since new lines of travel have been established. It is in fact a New Map, and the only map which can be relied upon for accuracy in its details. It moreover merits commendation for the artistical skill displayed in its execution, its typography being beautiful and distinct.

EBENEZER EMMONS, State Geologist.

In the encomrium passed by Prof. Emmons, upon Mr. Cooke's new Map, I fully concur. The particulars mentioned by him are of first rate importance and interest. Most of the maps of the State, heretofore published, have furnished few, if any, indications of the position of any point within our own limits, with regard to the North, south, or west of us. This evil has now a remedy. In noticing the map, the very efficient and important aid, in its construction, so fully afforded by Prof. A. D. Bache, Superintendent of the United States Coast Survey, and by Col. Gayman, having the management of the Survey of a railroad, carried over the Blue Ridge into the valley of the French Broad, should not be passed in silence. Only the portion of the map representing the eastern part of the State has been submitted to my inspection, but to this I presume, the rest will be made to correspond.

E. MITCHELL,

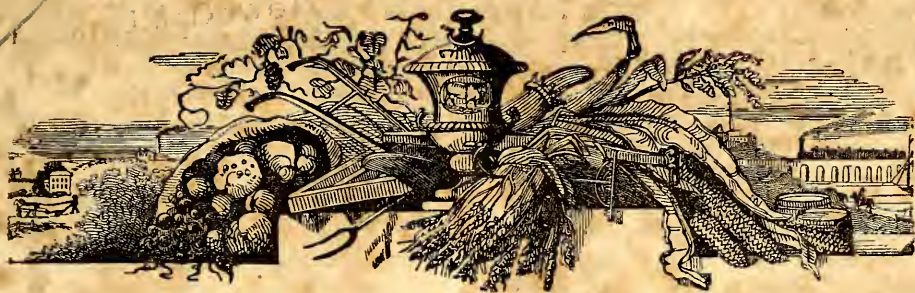
University of N. C., October 21, 1856.

JOHN N. GORDON,
Grocer and Commission Merchant and Dealer
in Metals,
14th Street, near the Exchange Hotel,
RICHMOND, VA.

May, 1856.

2.—12

WANTED, by a young lady residing at the North, a situation as Teacher, at the South, in either a family or public school. She is qualified to teach the common and higher English branches, Music, and Drawing. Credentials given if required. If in a family, she would prefer one of religious principles. Address the Editor of the "Carolina Cultivator." Feb. 19—tf



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Devoted to Agriculture, Horticulture, and the Mechanic Arts.

WILLIAM D. COOKE, Editor. and Publisher.

VOL. 3.

RALEIGH, N. C., OCTOBER, 1857.

NO. 8

PUBLISHED ON THE FIRST OF EACH MONTH.

TERMS.

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N. C. State Fair.

Premiums Awarded

At the Fifth Annual Fair of the N. C. State Agricultural Society, Held Oct. 20, 21, 22, 23, 1857.

Thoroughbred Horses.

| | |
|---|----------|
| Best Stallion over 4 years old, Ruffin and Albright, Graham, | \$ 25 00 |
| 2d " Stallion over 4 years old Josiah Turner, Hillsboro, | 15 00 |
| Best Filly over 2, and under 4 years old, James Turner Hillsboro. | 10 00 |

Quick Draught and Saddle Horses.

| | |
|--|-------|
| Best Stallion over 4 years old, Dr. R. K. Speed, and J. M. Hinton, Pasquotank. | 25 00 |
|--|-------|

| | |
|---|---------|
| 2d Best Stallion over 4 years old, W. Emery, Wake, | \$10 00 |
| Best Stallion over 2 and under 4 years old, T. F. Bailey Granville, | 15 00 |
| 2d " Stallion over 2 and under 4 years old Wm. March, Davie, | 8 00 |
| Best Stallion over 1 and under 2 years old, G. T. Cooke, Wake. | 10 00 |
| Best Broodmare over 4 years old, Dr. Wm. J. Green, Wake. | 20 00 |
| 2d " Broodmare over 4 years old, W. D. Jones, Wake, | 10 00 |
| Best Broodmare, with foal at her foot, L. T. Clayton, Wake, | 20 00 |
| Best Filly over 2 and under 4 years old, Albert Rankin, Guilford, | 10 00 |
| 2d " Filly over 2 and under 4 years old Wm R. Albright, Graham, | 5 00 |
| Best Saddle Horse, Jno. Hayes, Granville, | 15 00 |
| 2d " Saddle Horse, T. F. Williamson, Caswell, | 10 00 |
| Best pair of Matched Carriage Horses, R. S. Tucker, Wake, | 20 00 |
| 2d " pair of Matched Carriage Horses, J. V. Perkins, Pitt. | 10 00 |
| Best pair of Matched Carriage Horses raised in the State, M. D. C. Bumpass, Person, | 20 00 |
| 2d " do. raised in the State, S. O'Bryant, Person, | 10 00 |

| | | |
|--|---|---------|
| Best Single Harness Horse, Jno. H. Neal, Beaufort, | | \$15 00 |
| 2d " | Single Harness Horse O. S. Baldwin, Wilmington, | 10 00 |
| Best Single Harness Horse raised in the State, T. J. Utley Wake, | | 15 00 |
| 2d " | do. do. Jno. Wiggins " | 10 00 |
| The Committee on Quick Draught and Saddle Horses call attention to the Poney of W. F. Broadnax, of Rockingham, and recommend him for a Discretionary Premium, for speed, fine action, and as a well broke horse. | | |
| They also call attention to a very fine 3 year old Gelding Colt exhibited by Dr Wm. Green of Wake, to which they could award no Premium, as none of that class was named in the premium list. | | |

Heavy Draught Horses.

| | | |
|--|---|---------|
| Best Stallion over 4 years old, J. S. Holt, Alamance, | | \$25 00 |
| 2d " | Stallion over 4 years old, Jefferson Monk, Orange, | 10 00 |
| Best Stallion over 1 and under 2 years old, Wm. Smith, Orange, | | 5 00 |
| Best Gelding, H. A. Wright, Caswell, | | 5 00 |
| <i>Jacks, Jennetts and Mules.</i> | | |
| Best Jack raised in the State, Wm. Hamlen, Orange. | | 15 0 |
| 2d | Best pair of Mules, over 3 years old, Wm. D. Jones, Wake. | 10 00 |

Cattle—North Devons.

| | | |
|--|---|-------|
| Best Bull 4 years old, Dr. W. R. Holt, Davidson, | | 25 00 |
| " | Bull calf 2 years old, Dr. W. R. Holt, Davidson, | 15 00 |
| " | Cow 4 years old, Walter Gwynn, Wake, | 10 00 |
| " | Heifer 2 years old, Dr. Wm. R. Holt, Davidson, | 10 00 |
| <i>Cattle.—Durhams, Herefords, Ayreshires, Holstiens and Alderneys.</i> | | |
| Best Durham Bull calf over 2 and under 3 years old, Crouse and Irvine, Lynchburg Va. | | 15 00 |
| " | Durham calf under 1 year old, Crouse and Irvine Lynchburg Va. | 5 00 |
| " | Cow over 3 years old do. do., | 10 00 |
| 2d " | " do. do. do. do. | 5 00 |
| " | Heifer over 2 and under 3 years old, do. do. do. | 10 00 |
| " | Heifer over 1 and under 2 years old, J. M. Crenshaw, Wake, | 10 00 |

Cattle—Grades and Natives.

| | | |
|---|---|---------|
| Best Grade Bull, over 4 years old, S. H. Dunn, Granville. | | \$25 00 |
| " | Grade Bull Calf under 1 year old, Kemp P. Battle, Wake, | 5 00 |
| " | Grade Cow, over 3 years old, Kemp P. Battle, Wake, | 10 00 |
| 2d " | Grade Cow over 3 years old, Crouse and Irvine, Lynchburg, Virginia, | 5 00 |
| " | Native Cow 3 years old, Crouse and Irvine, Lynchburg, Va. | 10 00 |

Milch Cows.

| | | |
|---|---|-------|
| Best Milch Cow, giving 28 quarts of Milk, Crouse and Irvine, Lynchburg, Va. | | 10 00 |
| 2d " | Milch Cow giving 24 quarts of Milk, Crouse and Irvine, Lynchburg, Va. | 5 00 |

Working Oxen.

| | | |
|---------------------------------------|--|-------|
| Best Yoke of Oxen, Joel Powers, Wake. | | 10 00 |
| 2d " | Yoke of Oxen, Frederick Goodwin, Wake. | 5 00 |

Fat Cattle.

| | | |
|---|--|------|
| Best Fat Cow, Crouse and Irvine, Lynchburg, Va. | | 5 00 |
|---|--|------|

Sheep.

| | | |
|--|--|-------|
| Best South Down Buck, Dr. Wm. R. Holt, Davidson, | | 15 00 |
|--|--|-------|

Swine—Large Breed.

| | | |
|--|---|-------|
| Best Boar over 2 years old, Dr. F. J. Haywood, Wake, | | 10 00 |
| " | Sow over 2 years old, Sylvester Smith, Wake, | 5 00 |
| " | Breeding Sow with 7 Pigs, Everard Hall, Wake, | 10 00 |
| 2d " | Breeding Sow with 7 Pigs, Sylvester Smith, Wake, | 5 00 |
| " | Lot of Pigs under 10 months old, Sylvester Smith, Wake, | 9 00 |
| " | Nobone Barrow 13 months old, M. Cuthrell, Davie, | 5 00 |

Swine.—Small Breed.

| | | |
|--|---|-------|
| Best Suffolk Boar Everard Hall, Wake. | | 10 00 |
| <i>Swine.—Grades and Natives.</i> | | |
| Best Native Boar over 2 years old, Rufus H. Jones, Wake, | | 10 00 |
| " | Native Boar over 1 and under 2 years old, R. Fleming, Wake, | 5 00 |
| " | Native Sow over 2 years old, J. Moss, Wake. | 5 00 |

Best Grade Breeding Sow with 6 pigs, J. J. Ferrell, Wake, \$10 00
H. C. Ligon of Wake exhibited a Grade Boar under one year old, which is deemed worthy of notice, though not falling under the classification for a premium,

Poultry.

Best Trio of Shanghais, Mrs. E. Nixon, Wake, 3 00
" Trio of Brahma Pootras, Mrs. E. Nixon, Wake, 3 00
" Trio of Seabright Bantams, Jno. P. Haywood, Wake, 3 00
" Trio of Game Cocks, J. Moss. Wake, 3 00
" Pair of Domestic Turkeys, R. Fleming, Wake, 3 00
" Pair of Wild Geese, T. H. Selby, Wake, 3 00
" Pair of Muscovy Ducks, Sylvester Smith, Wake, 3 00
" Pair of common Ducks, Jno. Hutchins, Wake, 3 00
" Pair of Guinea Fowls, Mrs. E. Hall, Wake, 3 00
Best and Largest collection, owned by the exhibitor, Mrs. E. Nixon, Wake, 3 00

Agricultural Productions.

Best Variety of Bread corn, W. D. Jones, Wake, 3 00
" Variety of Stock Corn, Jno. Hutchins, Wake, 3 00
" Variety of Wheat, W. D. Jones, Wake, 3 00
" Variety of Oats, Jno. Hutchins Wake, 3 00
" Variety of Rye, J. P. Mabry, Davidson, 3 00
" Variety of Field Peas, Jno. Hutchins, Wake, 3 00
" Sweet Potatoes, Dr. Thomas Banks, Wake, 3 00
" Variety of Irish Potatoes, Jno. Hutchins, Wake, 3 00
" Two Stalks of Cotton, W. D. Jones, Wake, 3 00
" And Greatest Variety of the above, raised on one Farm, W. D. Jones, Wake, 10 00
" Specimen of Cotton in seed, N. Price, Wake, 5 00
" Specimen of Syrup from Chi-

nese Sugar Cane, R. H. Smith, Halifax \$10 00

Best Specimen of Vinegar, from Chinese Sugar Cane, Mrs. Geo. Mendenhall Guilford, 3 00

Tobacco.

Best Lot of Manufactured Chewing Tobacco, Y. and E. P. Jones, Caswell, 10 00
" do. do. Smoking, do. do. 3 00

Salt Provisions.

Best Half Dozen Hams, N. Price, Wake, 10 00
" Barrel of Herrings, W. H. Putney, Wake, 10 00

Dairy.

" Sample of Fresh Butter, Miss Jane E. Caldwell, Burke and Mrs. W. B. Williams Warren, to be divided. 10 00
2d " Sample of Fresh Butter, Mrs. Louisa A. Holt, Davidson. 5 00

Food Condiments &c.,

Best Barrel Wheat Flour, J. S. Holt, Alamance. 10 00
2d " " " H. D. Lott 5 00
" Specimen of Corn Meal, Evertard Hall, Wake, 5 00
" Specimen of Rye Flour, H. D. Lott, 5 00
" Specimen of Buckwheat Flour, Josiah Turner, Orange. 5 00
" Specimen of Starch, Needham Price, Wake, 3 00
" Wheat Bread, Mrs. Dr. R. S. Mason, Wake, 3 00
2d " Wheat Bread, Mitchel and Simpson, Wake, 2 00
" Specimen Strained Honey, Mrs. Jno P. Mabry, Davidson, 3 00
" Specimen Honey in the Comb, S. Smith, Wake. 3 00
" Quince Jelly, J. P. Mabry, Davidson, 3 00
" Apple Jelly, Mrs. L. A. Holt, Davidson. 3 00
" Preserved Quinces, J. P. Mabry Davidson, 3 00
" Green Pickles, Mrs. R. Tucker, Wake, 3 00
" Tomato Catsup, Mrs L. A. Cooke, Wake. 3 00
" Brandy Peaches, Mrs. R. Tucker, Wake, 3 00
" Dried Apples, Mrs. R. Tucker, Wake. 3 00

Mrs. Ruffin Tucker exhibited half a bushel of Filberts grown by her, which were very fine.

There were some very delicious grapes, the Elsingburg and Nobilla, exhibited by A. C. Hege of Davidson, and a Jar of Scuppernong grapes, by Mrs. Jno. D. Beatty of Bladen, The Elsingburg, is a new variety with us, and is a very superior grape,

There was also a very fine specimen of Sweet, water Grapes, of the second crop, exhibited by Mrs. E. Hall of Wake.

Native Wines, &c.

Best Dry Catawba, D. M. Lewis,

Franklin, \$ 5 00

2d " do. do. do. do. do. 2 00

" Sparkling, do. do. do. 5 00

Best Specimen of Rosin Oil, Alex.

Miller, New Berne. 3 00

An excellent article of Wine made from Blackberries, was exhibited by Mrs. R. H. Smith of Halifax, Mrs. S. Atkinson of Wake, and Mrs. L. A. Holt of Davidson, for which there was no premium offered, but the Committee recommend a premium to each of the exhibitors.

An article of Nash Apple Brandy, 48 years old, was exhibited by Jno. Tisdal of Nash, for which there was no premium offered. It was decidedly good. A bottle of Blackberry Vinegar which was made for a beverage, exhibited by Mrs. L. A. Holt, of Davidson, was considered by the Committee entitled to a premium, for which there was none offered.

Fruit and Fruit Trees, Adopted to the South.

Best and greatest Variety of Apples, S. Westbrooks and Co. Guilford. \$ 10 00

" and greatest Variety of Grapes, A. C. Hege, Davidson, 10 00

" and Largest Variety of Apple Trees, S. Westbrooks and Co. Guilford, 10 00

" and Largest Variety of Peach Trees, S. Westbrooks and Co., Guilford, 10 00

" and Largest Variety of Strawberry Vines, S. Westbrooks and Co., Guilford, 2 00

" and Largest Variety of Raspberry Vines, S. Westbrooks, and Co., Guilford. 2 00

Vegetables

Best Stalks of Celery, Mrs. R.

Tucker, Wake. \$2 00

" Cabbages Everard Hall, Wake. 2 00

" Egg Plants do. do. 2 00

" Squashes, J. C. Palmer, do. 2 00

" Onions, W. D. Jones do. 2 00

" Sugar Beets, Mrs. R. Williams, Wake, 2 00

" Mangel Wurtzel Beets, H. Mordecai, Wake. 2 00

" Carrots Rev. Dr. R. S. Mason, Wake, 2 00

" Turnips, Jno Hutchins Wake, 2 00

" Pumpkins, E. H. Overton, Granville, 2 00

The Committee report that Dr. D. A. Montgomery of Alamance, had on exhibition, three heads of Cabbage of Superior quality, but under the rule requiring not less than six, they could not award him a premium.

Plows and Harrows.

Best Two Horse Plow, N. Boyden

and Son, Rowan 5 00

2d " Two horse Plow, J. H. Thompson, Davidson, 4 00

" Two horse Plow Manufactured in the State, W. B. Williams, Warren, 5 00

" Single horse plow, N. Boyden and Son, Rowan, 5 00

2d " Single Horse Plow, W. B. Williams, Warren, 3 00

" Subsoil Plow, W. B. Williams, Warren, 5 00

2d " Subsoil Plow, N. Boyden and Son. Rowan 4 00

" Harrow, W. B. Williams, Warren, 5 00

2d " Harrow, J. P. Mabry Davidson, 2 00

" Horse Corn Planter, Jones, and Hooker, Orange, 5 00

" Smooth Iron Roller, James M. Towles Wake, 5 00

" Cultivator for general Purposes, N. Boyden and Son, Rowan, 5 00

2d " Cultivator for general Purposes, W. B. Williams, Warren, 2 00

" Corn Cultivator, W. B. Williams Warren, 2 00

" Cotton Scraper, N. Price Wake, 5 00

Threshing Machines, Fanning Mills, &c.

| | |
|---|---------|
| Best Threshing Machine, R. Sinclair, and Co. Baltimore, Md. | \$15 00 |
| " Fanning Mill J. Montgomery, and Brother, Baltimore, Md. | 10 00 |
| 2d " Fanning Mill, R. Sinclair and Co. Baltimore, Md. | 5 00 |
| " Improved Corn Fan, J. Montgomery and Brother, Baltimore, Md. | 5 00 |
| " Hay, Stalk and Straw Cutter, J. H. Thompson, Davidson, | 10 00 |
| " Hay and Straw Cutter, R. Sinclair, and Co. Baltimore Md. | 10 00 |
| " Hay and Straw Cutter Manufactured in the State, Clapp Huffman and Co. Guilford, | 10 00 |
| " Hand Power Corn Sheller, R. Sinclair and Co. Baltimore, Md. | 10 00 |

Reapers and Mowers.

| | |
|---|-------|
| Best Reaping Machine, C. Hussey, Baltimore, Md. | 20 00 |
| 2d " Reaping Machine, Jones and Hooker, Orange, | 10 00 |
| " Sweep Horse Power, Jones and Hooker, Orange, | 20 00 |
| 2d " Sweep Horse Power, J. H. Goeh, Granville, | 10 00 |
| " Stump Puller, N. Price, Wake, | 20 00 |
| 2d " Stump Puller, W. McKeever, Wake, | 10 00 |

Hay and Cotton Press, &c.

| | |
|--|------|
| Best Horse Rake, J. M. Towles, Wake, | 5 00 |
| " Washing Machine, Alex. Dickson, Orange | 5 00 |
| 2d " do. do. do. do. | 2 00 |

Carriages, Wagons &c.

| | |
|---|-------|
| Best open Buggy. B. J. Perkinson, Wake, | 15 00 |
| 2d " Open Buggy, Overman and Wilson, Mecklenburg, | 10 00 |
| " Six horse Farm Wagon, N. Price, Wake, | 15 00 |
| " Two horse Farm Wagon, Henry Horton, Wake, | 8 00 |
| " Horse Cart, W. J. Fort, Wake, | 8 00 |
| 2d " do. do. do. | 4 00 |
| " Buggy Pole and Shafts combined, V. N. Mitchell, Cabarrus, | 5 00 |

Machinery.

| | |
|--|---------|
| Best Steam Engine, 8 horse power, Silas Burns, Wake, | \$50 00 |
| " Portable Grist Mill, W. D. Cooke, Wake, | 15 00 |
| " Smutt Machine, Alex. Dickson, Orange, | 10 00 |
| Watsons \$12 Sewing Machine, Jno. H. Davis, Halifax, | 15 00 |
| Machine for Paring Horses' Hoofs, V. N. Mitchell Cabarrus, | 5 00 |
| Morticing Machine, L. P. Clifford, | 5 00 |

Farm and Domestic Tools.

| | |
|--|-------|
| Best Churn, J. M. Towles Wake, | 3 00 |
| " Sausage Cutter, do. do. | 3 00 |
| " Grain Cradle do. do. | 3 00 |
| " and Largest collection of Agricultural Implements, W. B. Williams, Warren. | 25 00 |
| " and largest do. Manufactured in the State, N. Boyden and Son, Rowan. | 25 00 |

Cabinet Work.

| | |
|---|-------|
| Best Bedstead, made in N. C., R. W. Henry, Wayne, | 5 00 |
| " Rocking Chair, W. F. Shultz, Forsythe, | 3 00 |
| " Centre Table, J. Day, Caswell | 3 00 |
| " Book Case and Secretary W. F. Shultz, Forsythe, | 5 00 |
| Window Sash and Blinds, Door and Palings, Murdoek, and Cairns, Rowan, | 10 00 |

Shoes, Hats, &c.

| | |
|---|------|
| Best half dozen Brogans, Chas. M. Lines Davidson | 3 00 |
| Henry Porter of Wake, exhibited a case of very handsome Ladies, and Gentlemen's Shoes and Gaiters of Northern Manufacture, and one pair of excellent Brogans of his own make. | |
| F. R. Bloom, of Forsythe, exhibited a pair of Gum-bottom Shoes, which were very good, but were entered too late for competition, | |

Sundries.

| | |
|---|------|
| Best Lot of Earthen Ware, F. C. Schaafner, Forsythe, | 3 00 |
| " Side of Harness Leather, A. F. Moses, Wake, | 2 00 |
| " Kip Skin, do. do, | 5 00 |
| The Magic Ventilator, or self-Fanning Rocking Chair in- | |

| | | | |
|--|------|--|------|
| vented by David Kahnweiler, Wilmington, a Diploma and | \$10 | Best Pair of Yarn Hose, Mrs. A. L. W. Wake. | \$ 2 |
| Volcanic Repeating Fire Arms, manufactured by the New Haven Arms Co. Exhibited by W. C. Stanton, New Ha- ven, a Diploma and Silver Cup | | " Foot Mat, Mrs S. P. Pescud, do. | 2 |
| Fine specimens of Water Buck- ets Manufactured in N. C, G. H. Makepeace, Fayetteville, | 5 | " Piece of Linen Mrs. Chas. Horton, Wake. | 5 |
| A pair of Needlework Slippers, Peter Plum, Wake, | 2 | <i>Crochet and Raised Worsted Work.</i> | |
| Model of a Locomotive, made by Sam, a negro boy 11 years old R. & G. R. R. | 2 | Best Crochet Collar in Spool Cotton, Miss. Maria E. Cooke, Wake. | 6 |
| <i>Mill Fabrics.</i> | | 2d " Crochet Collar in Spool Cotton, Miss. A. M. Herman, Rowan, | 3 |
| Best Piece of Woolen Jeans, 18 yards, Mrs. Charles Horton, Wake | 5 | " Specimen Crochet Lace in Spool Cotton, Miss Maria E. Cooke, Wake, | 6 |
| " Piece of Linsey for Negroes, 23 yards, W. H. and R. S, Tucker, Agts., Wake, | 10 | 2d " Specimen Crochet Lace in Spool Cotton, Mrs. C. M. Grow. Wake. | 3 |
| " Piece of Flannel 30 yards. do. | 5 | " Crochet work in Silk with Beads, Mrs. S. C. Waddell, Wake. | 6 |
| " Piece of Osnaburgs 31 yards. E. M. Holt, Alamance, | 5 | 2d " Crochet work in Silk with Beads, Miss Laura. — Wake, | 3 |
| " Piece of Woolen Carpeting 24 yards, Mrs. McCorkle, Rowan, | 10 | " Set of Table Mats, in Tidy Cotton, Miss Cooper, Granville. | 3 |
| " Piece of Sheeting 31 yards, E. M. H. Alamance, | 5 | 2d " Set of Table Mats, in Tidy Cotton, Misses Hattie and Lulie Cooke, Wake, | 2 |
| " Bed Ticking, 31 yards do. do. | 5 | " Tidy in tidy Cotton, Mrs. A. L. W. Wake | 3 |
| " Cotton Jeans 32 yards do. do. | 5 | 2d " Tidy in Tidy Cotton, Miss. A. M. Stewart, Harnett. | 2 |
| " Pair of Blankets, Mrs. Q. Bus- bee, for Mrs. Patterson, Wake. | 5 | " Table Cover, raised worsted work, Miss M. E. Mabry, Davidson, | 6 |
| " Bale of Cotton Yarns, John- ston Little River Manufactu- ring Co., | 5 | 2d " Table Cover, raised worsted work, Mrs. E. N. Mills, Granville. | 3 |
| " Hair Mattress Wm. Watson Wake. | 10 | " Hearth Rug, raised worsted, Mrs. H. B. Bobbi, Wake, | 6 |
| " Shuck and Cotton, do. do. do. | 5 | " Chair Cover, raised worsted, Miss Sophia Foltz, Forsythe. | 3 |
| <i>Household Fabrics</i> | | 2d " Chair Cover, raised worsted, Mrs. Kemp P. Battle, Wake. | 2 |
| Best Cotton Patchwork Quilt, Mrs. McCorkle, Rowan. | 5 | " Ottoman Cover raised worsted, Miss M. E. Mabry, Davidson, | 3 |
| 2d " Cotton Patchwork Quilt, Mrs. Johnson, Alamance, | 2 | 2d " Ottoman Cover, raised worsted, Miss N. E. Powell Wayne. | 2 |
| " Raised work Quilt, Mrs. M. A. Jordan, Person, | 5 | <i>Knitting and Netting.</i> | |
| 2d " Raised work Quilt, Mrs. Ruffin Tucker, Wake. | 2 | Best Specimen of Knitting in Wool, Miss M. L. Hill Wake, | 3 |
| " Knit Counterpane Mrs. Ruffin Williams, Wake. | 5 | 2d " Specimen of Knitting in Wool, Mrs. A. L. W. Wake. | 2 |
| 2d " Knit Counterpane, Mrs James F. Taylor, Wake, | 2 | 3d " Specimen of Knitting in Wool, Mrs. Partridge, Wake. | 1 |
| | | " Specimen of Knitting in Silk with Beads. Miss Laura — Wake. | 3 |
| | | <i>Fancy Work and Needle Work.</i> | |
| | | Best Ornamental Shell work, Mrs. S. P. Pescud, Wake, | 5 |

| | | |
|----|--|------|
| | Best Specimen Wax Flowers, Mrs Garrett, Guilford, | \$ 5 |
| | " Specimen Feather Work, Mrs. H. B. Bobbit, Wake, | 5 |
| | " Specimen Hair work, W. F. Shultz, Forsythe, | 5 |
| 2d | " Specimen of Hair work, Mrs. C. P. Pennington, Wake. | 2 |
| | " Leather work Frame, Mrs. L. A. Cooke, Wake. | 5 |
| | " Collar, Needle work, Mrs. G. M. Lea, Alamance, | 6 |
| 2d | " Collar Needle work, Mrs. S. B. Pescud, Wake, | 3 |
| | " Underslaves, Miss E. Haddock, Caswell, | 4 |
| | " Handkerchief, Misses A. and E. Kron, Stanly, | 6 |
| 2d | " Handkerchief, Miss Patty Young, Franklin, | 3 |
| | " Child's Dress, Mrs. R. G. Lindsay, Guilford, | 6 |
| 2d | " Child's Dress, Mrs. Bruce Gwynn, Wake, | 3 |
| | " Lady's Underdress, Miss A. B., Wake, | 6 |
| | " Lady's Underskirt, Mrs. J. V. Cawthorn, Warren, | 6 |
| 2d | " Lady's Underskirt, Miss Rebecca Evans, | 3 |
| | " Gentlemen's Shirt, Mrs. E. B. B., Wake, | 6 |
| 2d | " Gentleman's Shirt Mrs. E. R. Harris Cabarrus, | 4 |
| | " Boys Shirt, Mrs. M. P. R., Wake, | 6 |
| 2d | " Boys Shirt, Mrs. J. V. Cawthorn, Warren, | 3 |
| | " Specimen of Plain Sewing, Mrs. Alsa Tucker, Wake, | 4 |
| 2d | " Specimen of Plain Sewing, Mrs F. R. Bloom, Forsythe, | 2 |

Fine Arts.

| | | |
|------------------------------------|--------------------------|----|
| Best Specimens of Ambrotypes | J. P. Havens, Wake. | 5 |
| " Specimens of Photographs | J. P. Havens, Wake. | 5 |
| Improvement in Ambrotype, | O. P. Coe-land, Wake. | 5 |
| Best Oil Painting, "Cattle Scene." | A. Meinung, Forsythe. | 10 |
| 2d " Oil Painting, "The Sportsmen" | Miss Frainham Granville. | |

| | |
|--|---|
| Best Pencil Drawing, "Heads" Miss R. Smith, N. Hanover | 5 |
| 2d " Pencil Drawing, "Landscape," Miss Blanche Fentress, Wake, | 3 |
| " Pastel Drawing, "Burning Volcano" F. W. Lienbach, Forsythe, | 5 |
| 2d " a e Drawing, "Landscapes" Miss Blanche Fentress, Wake, | 3 |
| " Architectural Drawings A. B. Hendren, Rowan | 5 |
| " Monumental Drafting, W. G. Milligan, New Hanover. | 3 |

The Society are indebted to Mrs Marling of Raleigh, for several pictures of her late husband, both in Oil and Water Color, but in giving premiums, consider themselves restricted to living competitors.

Embroidery.

| | | |
|----|--|---|
| | Best Mante Embroidered in Silk, Mrs. Ruffin Williams, Wake. | 6 |
| 2d | " Mantle Embroidered in Silk Mrs. J. V. Cawthorn Warren | 3 |
| | " Vest, (Moire Antique) Embroider- ed in Silk Mrs. Motz, Lincoln, | 9 |
| 2d | " Vest, (Morino) Embroidered in Silk Motz, Lincoln. | 3 |
| | " Child's Dress, Embroidered in Silk, Miss Emily Howerton Orange. | 9 |
| 2d | " Childs Dress, Embroidered in Silk, Mrs. J. V. Cawthorn, Warren. | 3 |
| | " Sack or Spencer in Silk, Miss Emily Howerton. Orange. | 6 |
| | " Sack or Spencer in Silk, Mrs. F. I. Wilson, Wake, | 3 |
| | " Boy's Jacket, in Silk Miss T. P. Wake. | 6 |

Disc etiology: Pneumonia

| | |
|-----------------------------------|---|
| 2 Vases Porcelain, ic. Mas. l. A. | |
| Cooke, W. H. | 3 |
| Specimen of B. ... m. D. | |
| Cooke, W. H. | 4 |
| Specimen of ... Geo. E. | |
| Cha. W. | 3 |
| Leaf of ... | |
| Fe. W. ... | 9 |
| ... N. C. | |
| ... B. ... | |
| ... 10 | |
| ... 2 | |

1 Doll's Dress, made by Mary Burt
and N. Dupre, blind Pupils.

1 Glass top Table Miss D. M. Hap-
poldt, Rowan,
Map of North Carolina, Wm. D.
Cooke, Wake.

1 Thread Lace Collar, Miss S. A.
Partridge, Wake.

Carved Cameos, Dr. Chas. Small-
wood, Woodville

Specimen of Jewelry Manufactured
by Chas. J. Stees Raleigh, a Di-
ploma and

A diploma is awarded to Stirn & Rholving of
Baltimore, Md., for a very fine Piano exhibited
by them.

A diploma is awarded to P. J. Mahan for
Langstroth's Bee Hive, which is considered a
very superior hive.

Mr. T. R. Fentress of Raleigh, exhibited a
show case filled with beautiful specimens of
vestings, &c.

Mr. Chas. H. Thompson, Jeweller, Raleigh,
exhibited a Pitcher, Waiter and two Goblets,
all solid silver, elaborately carved.

Mr. John C. Palmer, Jeweller, Raleigh, ex-
hibited a case of beautiful Jewelry, of gold and
silver.

Messrs. Williams & Haywood, Druggists,
Raleigh, exhibited a case of very fine perfume-
ry, &c., &c.

W. D. COOKE,
Secretary of the Ex. Com.

Work for Rainy Days.

A distinguished divine in New England once
preached a sermon on the moral uses of rainy
days. The heavens have been preaching so
much in the same strain, the past three or
four months, that the topic will at least be
seasonable. They have come in season, and
out of season, so that the farmers who had not
had forecast to provide for them, have had oc-
casion for complain of lost time.

The farmer, of necessity, pursues the most
of his labors under the open skies; and unless
he can supply his boys and men with employ-
ment under cover, rainy days must be lost.—
Some, indeed, work men and cattle through all
weather, but the practice is inhuman and im-
politic. Both teams and men are often disabled
where the practice is persevered in.—Rainy

days, if rightly improved upon the farm, aside
from their agency in watering the earth, will
be reckoned among the farmer's richest bless-
ings. They bring to the manager of the farm
a little breathing spell, when he may contem-
plate the progress already made in his work,
and lay his plans for the future. At this sea-
son, when everything is pressing, they are par-
ticularly important. Of a dozen things that
need to be done, it requires a little time to se-
lect the piece of work that will suffer by de-
lay.

But the boys must have something to do on
rainy days. Fishing should not be the inva-
riable recreation. If the farmer has a tool-
shop, and a work-bench, both boys and men
will be furnished with profitable employment
when it rains. A few tools are quite common
upon the premises of a Yankee farm, and the
number might be profitably enlarged. The
influence of the frequent use of the saw, the
hammer, the bit, and the plane, in making a
boy happy, is incalculable. One sees the con-
trast when the ignorant European laborer is
put down upon an American farm. He knows
that kind of labor to which he has been train-
ed, and is extremely awkward at everything
else. The boy of the American farmer, if he
has a work-shop to grow up in, can adapt
himself to any kind of mechanical labor with
the utmost ease. His arms and fingers are
supple, and he becomes an adept in all that he
undertakes.

This kind of physical education, which makes
a boy ingenious in planting, and skillful in the
execution of his plans, is worth far more than
any pecuniary fortune. It makes a man com-
paratively independent, in whatever circum-
stances he may be placed. Put him down in
the wilderness, and with an axe, saw, and au-
ger, he will construct him a comfortable house
in a few days, to shelter his family from the
storm. If he seeks his fortune in the city he
will be ready for any business that turns up;
and if the best mode of conducting it is not
already adopted, he will quite likely discover
it.

Every farmer, then, who has boys growing
up around him, should have a snug work-shop
well lighted, and in winter, well warmed with
a stove. The building need not be a separate
one. A room in the crib, carriage-house, or
barn may be fitted up at small cost for this pur-

pose. Some farmers turn their kitchen into a work shop, and here, on the rainy days, manufacture their yokes, ox-whips and whiffletrees. But this is a heathenish practice that no good housewife ought to tolerate, and we are quite sure no considerate husband will countenance it. Woman has her rights, and those which we are particularly disposed to vindicate are her rights to rule in the house. The work-shop should be by itself, and order should reign throughout. There should be a tool chest for the smaller and nicer articles—the bit stock, and the sets of augers and bits for holes of all sizes, from one inch downward to the smallest gimblet hole, for the planes, the fine saw, the screw driver, the tack hammer, the screws and tacks, the chisels, the rule, the spirit level, and the measuring tape.

The larger tools, the axe, saw, and augers, which are more frequently used, should have places to hang or stand, so that they may be found in the dark if necessary. Neatness and system in the care of tools and other articles, are learned only in youth. They are invaluable habits, and often lead to success in life.—Upon one side of the room should be a work bench, on which boards ten or twelve feet long may be planed. It should be furnished with a vice or wooden screw in which all small articles may be held fast for the purpose of using the plane or the shaving knife.

With such a room fitted up and furnished with fifteen or twenty dollars worth of tools, the boys will never be at a loss for amusement and the men will never lack employment on rainy days. It would pay for itself every year aside from its influence in training the boys to skilful labor and industrious habits. If the tooth or bow of a rake is broken John can easily mend it. If the hoe handle breaks, he has a piece of ash, well seasoned, that will make another. If the cart ladder gives out, he knows how to put in a new slat. There will be hundreds of items of expense saved every year by a work shop. With this adjunct of the farm, rainy days will be greater blessings to the farmer's sons than to his acres.—*New York Times*.

The almost unprecedented hard times, and the fact that old hoary winter is upon us in his usually severe manner, it is the privilege of a few who are blessed with an abundance to relieve necessities of the poor and needy.

Advertisements.

FALL TRADE, 1857.

JOHN N. GORDON, GROCER AND COMMISSION MERCHANT, AND DEALER IN METALS, 14th Street, near the Exchange Hotel, Richmond, Va., offers for sale—

Orleans and Coffee Sugars, various grades, Loaf, Crushed, Granulated and Powdered Sugars. Laguira, Rio and Old Government Java Coffee. Orleans and West India Molasses.

Pure Cider Vinegar.

Sperm, Adamantine and Tallow Candles.

Soaps, Fancy and Brown

Sole Leather, good and damaged.

All sizes Flat, Round, Square Swedes,

American Hammered,

English Refined,

English and American rolled,

English and American blistered Steel.

German, Cast and Shear Steel.

Broad Plough Iron, 6 to 12 inch.

American, English and Russia Sheet Iron.

Oval, half Oval and half round Iron.

Nail Rods, American and Swedes.

Band, Scroll and Hoop Iron.

Horse Shoes, assorted.

Horse and Mule Shoe Iron.

Tin Plate, Pig and Bar Tin.

Sheet Zinc, Spelter, and Spelter Solder.

Sheathing, Brazier's and Bolt Copper.

McCormick's and Palmer Mould Boards.

Particular attention given to the sale of Wheat, Flour and Country Produce generally.

4,000 Acres of Land for Sale.

THIS Land lies in Chesterfield District, S.C., immediately on the Pee Dee river, and the Cheraw and Darlington Railroad, and by the latter part of the present year, will be within a few hours ride of the city of Charleston. There are about 1,300 acres of the land cleared, which

PRODUCE FINELY

without manure of any kind. The balance is densely covered with a heavy growth of White Oak, Ash, Elm, Dogwood, Hickory, Cotton, Walnut, Poplar, &c., with a

CANE BRAKE

extending near over the entire Tract. About 200 acres of the Tract lie in the Sand Hills, which for Health and Fine Springs of water, is

PROBABLY UNSURPASSED

by any of this State. The Tract will be divided to suit purchasers. For particulars address

E. B. CASH,

Cheraw, S. C.

June 1857.

"Learn of the Mole to plough."—*Pope*.

WYCHE'S CULTIVATING PLOW, (PATENT—ED 8th of January, 1856)—called the Mole; Plow; with vertical cutters near the edge of a horizontal share, for dividing the turrow slice, and a curved cutter on the rear of the share for turning the whole in towards the plow, or as far on the opposite side of the share as may be desired. Adapted to sifting, listing, breaking turfy or hard land, subsoiling, and many other purposes. Is light, cheap, and strong; and supposed to be the most perfect pulverizer in use.

For license to sell, with directions for manufacturing, address.

W. E. WYCHE,

Brookville, Granville Co., N. C.

June 16, 1856.

5—11.

NORTH CAROLINA INSTITUTION

FOR THE DEAF AND DUMB AND THE BLIND,
RALEIGH, N. C.—SESSION OF 1857-58.

Board of Directors.

WILLIAM H. MCKEE, M. D., President.

S. H. YOUNG,
JNO. C. PALMER,
W. W. VASS,

A. M. LEWIS,
Q. BUSSEE,
D. G. FOWLE.

Officers of the Institution.

WM. D. COOKE, A. M., Principal,
JAMES A. WADDELL, M. D., Vice-Principal.

Teachers in the D. & D. Department.

GEO. E. KETCHAM, CHAS. M. GROW,

Teachers in the Blind Department.

J. A. WADDELL, M. D. MRS. S. C. WADDELL,
MISS M. COOKE.

Mrs. L. E. GROW, Matron. M. S. E. LITTLE, HouseFr.
S. LITTLE, wtd.

The next session of this Institution will commence on the first Monday of September. Any intelligent and healthy white resident of the State, between the ages of 8 and 20, whether Deaf and Dumb or Blind, may, if the means of education are wanting, be admitted to the school free of charge. The terms for others may be learned from the Principal. Such pupils as are capable of decided improvement, are not only instructed in the ordinary branches of a common education, but receive such accomplishments as may best fit them for success in life. Music, drawing, needle-work, book-work, and suitable handicrafts will form a considerable part of the course through which they pass. Careful attention will be paid to their religious, moral, and physical improvement, and every effort will be made, not only to render them comfortable, but to promote their highest welfare. Pupils should by all means enter early in September. For any information in regard to the Institution, address,

WILLIAM D. COOKE, Principal,
Raleigh, N. C.

NORTH CAROLINA

MUTUAL INSURANCE COMPANY

AT THE ANNUAL MEETING OF THE North Carolina Mutual Insurance Company, held on the 25th inst. the following persons were elected Directors and Officers for the ensuing year:

OFFICERS OF THE COMPANY.

T. H. Selby, President.
H. D. Turner, Vice President.
H. S. Smith, Secretary and Treas.
John H. Ryan, Attorney.

T. H. Selby, ex officio,
John R. Williams, } Executive Committee
C. W. D. Hutchins,

This Company has been in successful operation for more than 7 years, and continues to take risks upon all classes of property in the State, (except Sea Mills and Turbine Distilleries,) upon favorable terms. Its policies now cover property amounting to \$1,500,000, a large portion of which is on commercial risks; and its present capital is nearly Seven Hundred Thousand Dollars, fully paid up and secured.

The average cost of Insurance upon the plan of the Company has been less than one third of one per cent. per annum, and the gradations of property embraced in its operations.

All communications in reference to insuring should be addressed to the Secretary, post paid.

H. S. SMITH, Secy.

PREMIUM THRESHING MACHINES.

The North Carolina State Fair, held at Raleigh, awarded the First Premium for our celebrated Threshing Machine.

THIS Machine has been fully tested in this State and Virginia, and approved by all who have used it on account of its simplicity of construction, utility, and durability. We have no hesitation in saying they are the best Threshers now in use. They are economical in cost, simple in construction, and less liable to get out of working order. We also make a *Hub Horse Power*, which is adapted to either four or six horses. This Power is all that a planter can desire to do, the power-work on a plantation: it is very simple in its construction, celebrated for its strength, and not easily got out of repair; and, from the same quantity of power, can do more work than any other now in use.

It is unnecessary for us to particularize further as to the advantages of our Thresher and Power, but respectfully solicit the attention of all, to call and examine for themselves at our manufactory, where they can be seen in full operation; and any recommendation that may be wanted will be given, from planters, and others of this city, who have used them for the last four years.

All orders promptly attended to.

Repairing done at short notice, on application, at our manufactory, on Washington St., opposite Jarrott's Hotel, Petersburg, Va.

J. W. DAVIDSON & BRO.

Ap., 1857—2m

ISN'T IT SO!

USE ARTHUR'S Celebrated Self-Sealing Cans and Jars, and you will have fresh fruit all the FRESH FRUIT year at Summer prices.

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They are made of Tin, Glass, Queens' Ware, and Fire and Acid proof Stone Ware. The sizes are from pints to gallons. These cans and jars are entirely open at the tops, and nest, to secure economy in transportation.

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February, 1857.

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OR, THE

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Who has had 10 years experience as a Banker and Publisher, and Author of *A series of Lectures at the Broadway Tabernacle* when, for 18 successive nights, over

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RALEIGH, N. C.

The subscriber is general agent for the sale of Agricultural Implements and Farming utensils, Field seeds, Fertilizers, &c. &c. Almost all the articles brought to the late Fair are kept on sale and are offered at manufacturers prices with no cost of transportation, as they were brought free by the Railroad.

There is also a new fire proof Ware House on the lot, in which all articles on consignment are stored. The following are some of the articles brought to the late Fair: Horse Powers, Wheat Fans, Corn Drills, Field Rollers, Corn and Cob Crushers, Harrows, Cultivators, and Plows of every size and description.

JAMES M. TOWLES.

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W. E. WYCHE.

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June 16, 1856.

5—tf.

J. H. Gooch, Oxford, N. C., solicits orders for the above plows.

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GERMAN BITTE S.

PREPARED BY

DR. C. M. JACKSON, PHILAD'A, PA.

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Chronic or Nervous Debility, Disease of the Kidneys, and all diseases arising from a Disordered Liver or Stomach.

Such

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Fulness or Blood to the

Head, Acidity of the stomach,

Nausea, Heartburn, Disgust for food,

Fulness or Weight in the Stomach, Sour Eructations, Sinking or Fluttering at the pit of the stomach, Swimming of the Head, Hurried and difficult Breathing, Fluttering at the Heart, Choking or suffocating sensations when in a lying posture. Dimness of vision, Dots or webs before the sight, Fever and Dull Pain in the

Head, Deficiency of Perspiration,

Yellowness of the skin and eyes,

Pain in the Side, Back, Chest,

Limbs, &c., Sudden flushes of Heat, Burning in the

Flesh, Constant

imaginings of evil,

and great depression of

Spirits,

The proprietor in calling the attention of the public to this preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the diseases for which it is recommended.

It is no new untried article but one that has stood the test of a ten years' trial before the American people, and its reputation and sale is unrivaled by any similar preparations extant. The testimony in its favor given by the most prominent and well known Physicians and individuals in all parts of the country is immense, and a careful perusal of the Almanac published annually by the proprietor, and to be had gratis of any of his agents, cannot but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained.

Principal Office and Manufactory No. 96 Arch St. Philadelphia, Pa.

TESTIMONY FROM N. CAROLINA.

ASTONISHING EFFECTS FROM THE GERMAN BITTERS.

Certificate of Dr. W. SMITH, of Pine Hill, Richmond Co., N. C., March 4, 1854.

Dr. C. M. Jackson, Philadelphia.—Dear Sir,—I have been a subject of Dyspepsia in its worst form,

for the last five years. Such was my condition for 12 months that the physicians and all who saw me said I must die. While in this condition, I was carried to the watering places in Virginia, Tennessee and North Carolina, but was not benefited by any water to which I was taken. While on my way home, I stopped a week at Rutherfordton, a small village in N. Carolina to try the effect of some Chalybeate water in that place. About the last of the week, I went into a drug store to get some medicine for my child and myself. There were several of the village physicians in the store, and one of them seemed to take some interest in my case, and after asking me some questions, said he had been a dyspeptic, and had been greatly benefited by the use of "Dr. Hoofland's German Bitters," prepared by you, and he insisted that I should try the Bitters. He also called the next day at my room, and insisted so much that I would try them, that I asked him to get me one bottle. He did it, and I commenced taking it as directed, and I do say I was more benefited by it than all the water and medicine I had ever taken.

After reaching home, one of my neighbors came to me for a prescription and medicine, (he a dyspeptic,) and I gave him nearly all the Bitters I had left; which effected much good in his case. He has often called on me for more of the same kind of medicine, saying he was more benefited by it than any other he had taken, but I have not been able to get any more for him or myself since; will you, therefore, please ship me a dozen or more as soon as possible.

Respectfully yours,

W. SMITH, M. D.

GREAT CURE OF PILES.

Certificate of W. J. ATWOOD, Huntsville, Yadkin Co., N. C., Nov. 1, 1853.

Dr. C. M. Jackson.—Dear Sir,—Allow me to express to you my sincere thanks for your discovery of a medicine, which, to say the least of it, has effected a cure that all other medicines that I have taken have entirely failed to do. "Hoofland's German Bitters," have cured me of the most stubborn and aggravated case of the PILES that, perhaps, ever fell to the lot of man. My case is not a stranger to this community, as I am well known in this and the surrounding counties, and can truly say that my recovery has astonished all my friends and relations, as I had tried everything recommended, and nothing did me any good until I was prevailed upon to try the bitters. You are at liberty to make any use of this communication, for the benefit of the afflicted, as you may think proper.

Truly yours,

W. M. T. ATWOOD.

These Bitters are entirely vegetable, possessing great advantage over every mineral preparation, as they never prostrate, but always strengthen the system.

Price 75c. per bottle. Sold by Druggists and Storekeepers in every town and village in the United States and Canadas, and by

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November 1856.

Raleigh.

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WARRENTON, N. C.

THE 30th session of this school will commence on the 3d of January next, prepared to give thorough instruction in all the branches of female education. Pupils received at any time. All charges from time of entrance.

Terms per Session:

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| Board, washing, lights and fuel in rooms, | \$60 00 |
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| Oil Painting, | 15 00 |

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December, 1855.

GRENOBLE HOSE.

THIS superior hose, manufactured from the finest of HEMP, is adapted and especially recommended for the use of Fire Engines, Mills, Manufactories, Ships, Steamboats, Railroads, Hotels, Garden uses, &c. Its advantages over other Hose are its extreme lightness and cheapness. It will stand as much pressure as Leather Hose, and has proved to be as durable; and all the care it needs after use is to thoroughly dry it in the open air.

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

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Feb 18—6m

LYON'S KATHAIRON

Has now become the standard preparation for the HAIR. Its immense sale, nearly

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BOTTLES.

Per year, attests its excellence and great superiority over all other articles of the kind. The ladies universally pronounce the

KATHAIRON

To be, by far, the finest and most agreeable article they ever used. It RESTORES the Hair after it has fallen out; INVIGORATES and BEAUTIFIES it, giving to it a rich glossy appearance, and imparts a *delightful perfume*. Sold by all dealers throughout the United States, Canada, Mexico, Cuba and South America, for

25 Cents per Bottle.

HEATH, WYNKOOP & CO., PROPRIETORS,
63 LIBERTY STREET, NEW YORK.
Manufacturers, also, of Perfumery of all kinds, and in great variety. 6m.

SANDS' SARSAPARILLA

**IN QUART BOTTLES,
FOR PURIFYING THE BLOOD,**

AND FOR THE CURE OF

Scrofula, Rheumatism, Stubborn Ulcers, Dyspepsia, Salt Rheum, Fever Sores, Erysipelas, Pimples, Broils, Mercurial Diseases, Cutaneous Eruptions, Liver Complaint, Bronchitis, Consumption, Female Complaints,

Loss of Appetite, General Debility, &c.

TO RELIEVE SUFFERING has been the object of the humane and philanthropic of all ages.—Before the practice of medicine became a science, the sick were publicly exposed in the open air, and every passer-by named the remedy he considered most suitable for the complaint. We possess at the present day, through the agency of the press, a more reliable mode of conveying information to our suffering fellow creatures. Those afflicted with Scrofula, Cutaneous or Eruptive Diseases, will find in the columns of almost every newspaper and periodical published certificates and testimonials from those who have

been speedily cured of these dreadful complaints by the purifying and powerfully regenerative qualities of Sands' Sarsaparilla.

ASTONISHING CURE.

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Messrs. A. B. & D. Sands: Gentlemen:—Having witnessed the most beneficial effects from the use of your SARSAPARILLA, it gives me pleasure to send you the following statement in regard to my son. In the Spring, he took a severe cold, and after eight weeks of severe suffering the disease settled in his left leg and foot, which swelled to the utmost. The swelling was lanced by his physician, and discharged most profusely. After that, no less than eleven Ulcers formed on the leg and foot at one time. We had five different physicians, but none relieved him much; and the last winter found him so emaciated and low that he was unable to leave his bed, suffering the most excruciating pain. During this time the bone had become so much affected, that piece after piece came out, of which he has now more than twenty-five preserved in a bottle, varying from one half to one and a half inches in length. We had given up all hopes of his recovery, but at this time we were induced to try your SARSAPARILLA, and with its use his health and appetite began immediately to improve, and so rapid was the change that less than a dozen bottles effected a perfect cure.

With gratitude, I remain truly yours,
DARIUS BALLARD.

We, the undersigned, neighbors of Mr. Ballard cheerfully subscribe to the facts of the above statement.

**H. & R. S. HYATT,
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Sold also by Druggists generally.

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**FOR ALL THE PURPOSES OF A
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There has long existed a public demand for an effective purgative Pill which could be relied on as sure and perfectly safe in its operation. This has been prepared to meet that demand, and an extensive trial of its virtues has conclusively shown with what success it accomplishes the purposes designed. It is easy to make a physical Pill, but not so easy to make the best of all Pills—one which should have none of the objections, but all the advantages of every other. This has been attempted here, and with what success we would respectfully submit to the public decision. It has been unfortunate for the patient hitherto that almost every purgative medicine is acrimonious and irritating to the bowels. This is not. Many of them produce so much griping pain and revulsion in the system as to more than counterbalance the good to be derived from them. These Pills produce no irritation or pain, unless it arises from previous existing obstruction or derangement in the bowels. Being purely vegetable, no harm can arise from their use in any quantity; but it is better that any medicine should be taken judiciously. Minute directions for their use in the several diseases to which they are applicable are given on the box. Among the complaints which have been speedily cured by them we may mention Liver Complaint, in its various forms of Jaundice, Indigestion, Langor and Loss of Appetite, Listlessness, Irritability, Billious Headache, Billious Fever, Fever and Ague, Pain in the side and Loins, for in truth al

these are but the consequence of diseased action of the liver. As an aperient, they afford prompt and sure relief in Costiveness, Piles, Colic, Dysentery, Humors, Scrofula and Scurvy, Colds, with soreness of the body, Ulcers and impurity of the blood; in short any and every case where a purgative is required.

They have also produced some singularly successful cures in Rheumatism, Gout, Dropsey, Gravel, Erysipelas, Palpitation of the Heart, Pains in the Back, Stomach and Side. They should be freely taken in the Spring of the year, to purify the blood and prepare the system for the change of seasons. An occasional dose stimulates the stomach into healthy action, and restores the appetite and vigor. They purify the blood and by their stimulant action on the circulatory system, renovate the strength of the body, and restore the wasted or diseased energies of the whole organism. Hence an occasional dose is advantageous even though no serious derangement exists; but unnecessary dosing should never be carried too far, as every purgative medicine reduces the strength, when taken to excess. The thousand cases in which a physic is required cannot be enumerated here, but they suggest themselves to the reason of every body; and it is confidently believed this pill will answer a better purpose than any thing which has hitherto been available to mankind. When their virtues are once known the public will no longer doubt what remedy to employ when in need of a cathartic medicine.

Being sugar flavored they are pleasant to take, and being purely vegetable, no harm can arise from their use in any quantity.

For minute directions, see the wrapper on the box.

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FOR THE RAPID CURE OF

COUGHS, COLDS, HOARSENESS,
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ASTHMA AND CONSUMPTION.

This remedy has won for itself such notoriety for its cures of every variety of Pulmonary disease, that it is entirely unnecessary to recount the evidences of its virtues in any community where it has been employed. So wide is the field of its usefulness, and so numerous the cases of its cures, that almost every section of the country abounds in persons publicly known, who have been restored from alarming and even desperate diseases of the lungs by its use. When once tried its superiority over every other medicine of its kind is too apparent to escape observation, and where its virtues are known, the public no longer hesitate what antidote to employ for the distressing and dangerous affections of the pulmonary organs which are incident to our climate. And not only in formidable attacks upon the lungs, but for the milder varieties of Colds, Coughs, Hoarseness &c., and for children it is the pleasantest and safest medicine that can be obtained.

As it has long been in constant use throughout this section, we need not do more than assure the people its quality is kept up to the best that it ever has been and that the genuine article is sold by—

P. F. Pescud and Williams & Haywood, Raleigh,
N. C., June, 1857.

4—y.

GREEN SAND MARL OF NEW-JERSEY.
THE NEW-JERSEY FERTILIZER COMPANY.
It is now prepared to receive orders for this important Manure. For all lands upon which ashes are beneficial, the Marl is more than a substitute. Professor Cook, in his Annual Report to the Legislature of New Jersey, says:

"The value of these Marls is best seen in the rich and highly cultivated district which has been improved (almost made) by their use. But it may be interesting to examine the causes of their great value in agriculture, and to compare them with other fertilizers. For example: The potash alone may be taken, at an average as five per cent of the whole weight of the Marl; a bushel, when dry, weighs eighty pounds; and in the proportion mentioned, would contain four pounds of potash. This is nearly as much as there is in a bushel of unleached wood ashes."

And again: "It is probable that the great value of the Marl is to be found in the fact that it contains nearly all the substances necessary to make up the ash of our common cultivated plants."

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For further particulars, see Circular, sent free of postage. Orders for other fertilizers will receive prompt attention. Address either of the undersigned.

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9—1y.

N. B.—Those wishing Marl for Spring use should order it immediately, to secure its early shipment. Orders will be filled in rotation.

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with or without iron frames, have, in their new scale and improved action, a power and compass of tone equalling the grand, with the beauty and durability of the square piano. The Press and first music masters have justly pronounced them equal if not superior to any other make. *They are guaranteed to stand the action of every climate.*

HORACE WATERS' MELODEONS (tuned the equal temperament,) superior in each desirable quality—sole agent for the sale of S. D. & H. W. Smith's celebrated Melodeons—can also furnish Melodeons of all other makers. Prices from \$45 to \$125; for two sets of reeds, \$150; two banks of keys, \$200; Organ pedal bass melodeons, \$275 and \$300.

MUSIC—One of the largest and best catalogues of Music now published; sold at greatly reduced prices. Music sent to wherever ordered, post paid. Personal attention paid to all orders received by Mail. Second hand Pianos taken in exchange for new. Catalogues sent by mail. Great inducements offered to agents to sell the above. A liberal discount to dealers, teachers, seminaries and clergymen.

Each Instrument guaranteed to give satisfaction, or purchase money refunded. **SECOND HAND PIANOS AT GREAT BARGAINS** constantly in store; prices from \$0 to \$140.

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Nothing at the State Fair displayed greater excellence in any department than the Piano-Forte manufactured by Horace Waters, of this city.—*Churchman*.

The following is taken from the "Christian Inquirer": "The finest among the many pianos at the Crystal Palace are those placed there by Horace Waters, whose instruments are always popular."

The following we take from the "Christian Advocate" Memphis Tenn.: "The Horace Waters' Pianos are built of the best and most thoroughly seasoned material. From all we can learn of this establishment—said to be the largest in the United States—we have no doubt that buyers can do as well, perhaps better, at this time than any other house in the Union."

"Mr. Waters has been long established and is favorably known. We speak from experience, when we assure our readers that his prices are below those usually charged for articles in his line."—*Jacksonian N. J.*

"Your instruments are a sensible improvement upon American Pianos, and on honor to the skillful manufacturer. There is no doubt but they will be appreciated by the public and all admirers of true merit."—*Oscar Comettant*.

"I take great pleasure in pronouncing them instruments of a superior quality both in tone and touch."—*August Gockle*.

For power of tone depth of bass, and brilliancy of treble, together with accuracy of touch, they are equal to any make I am acquainted with, and I cordially recommend them to those wishing to purchase.—*V. C. Taylor*.

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"We consider them worthy of special attention, from the resonant and exceedingly musical tone which Mr. Waters has succeeded in attaining."—*N. Y. Musical World and Times*.

There is one which, for beauty of finish and richness and brilliancy of tone, equals, if it does not excel, anything of the kind we have ever seen. It is from the establishment of Horace Waters. Being constructed of the best and most thoroughly seasoned material, and upon improved principles, it is capable of resisting the action of the climate, and of standing a long time in tune.—*Savannah Georgian, Savannah Ga.*

Says the "Evening Mirror," "They (the Horace Waters' Pianos) are very superior instruments and the maker may confidently challenge comparison with any other manufacturer in the country, as regards their outward elegance, and quality of tone and power."

COOKE'S NEW MAP OF NORTH CAROLINA, NOW READY FOR DELIVERY.

THIS Large and Beautiful MAP of North Carolina is now ready for delivery. It is one of the best engraved maps that has ever been published of any State in the Union, and is sold at the low price of Eight Dollars.

No Maps will be sold except by subscription. Agents will be found in most of the counties of the State, and persons desiring a copy of the Map can send their names directly to "Wm. D. Cooke, Raleigh, N. C."

AGENTS WANTED.

A number of counties in the State are yet unengaged. Persons wishing to canvass for the Map will be furnished with the terms, &c., upon application to the undersigned.

Agents are also wanted for South Carolina and Virginia. The Map includes Virginia as far north as Richmond, and South Carolina as far south as the junction of the Congaree and Wateree rivers.

TO EDITORS.

Editors in this State, who, having advertised the Map for six months, are entitled to a copy will please communicate the fact to the undersigned, that their copies may be forwarded by first opportunity.

W. D. COOKE,
Raleigh, N. C.

Report of Professors Emmons and Mitchell, to the North Carolina State Ag. Soc., on COOKE'S NEW MAP OF NORTH CAROLINA.

I have had frequent opportunities of testing the correctness of Mr. Cooke's new Map of North Carolina, and parts of the adjoining States. This Map is worthy of special notice: 1st, from the fact that it embraces those parts of Virginia, South Carolina and Tennessee which are of immediate interest to the citizens of this State. 2d, that the eastern part of the State is compiled from data obtained through the determinations of the Coast Survey. 3d, it contains an entirely new feature in its profile extending along the line of the Railroad survey from Goldsboro' to Asheville, which exhibits the heights of many interesting points, as well through the central and western parts of the State lying east of the mountains as amongst the Mountains themselves.

In addition to the foregoing it may be justly said that Mr. Cooke has taken unwearied pains to correct the geography of the different counties, and to insert the prevalent names of places, those for instance which have come into use since new lines of travel have been established. It is in fact a New Map, and the only map which can be relied upon for accuracy in its details. It moreover merits commendation for the artistical skill displayed in its execution, its typography being beautiful and distinct.

EBENEZER EMMONS, State Geologist.

In the encomium passed by Prof. Emmons, upon Mr. Cooke's new Map, I fully concur. The particulars mentioned by him are of first rate importance and interest. Most of the maps of the State, heretofore published, have furnished few, if any, indications of the position of any point within our own limits, with regard to the States, north, south, or west of us. This evil has now a remedy. In noticing the map, the very efficient and important aid, in its construction, so fully afforded by Prof. A. D. Bache, Superintendent of the United States Coast Survey, and by Col. Gwynn, having the management of the Survey of a railroad, carried over the Blue Ridge into the valley of the French Broad, should not be passed in silence. Only the portion of the map representing the eastern part of the State has been submitted to my inspection, but to this I presume, the rest will be made to correspond.

E. MITCHELL.

University of N. C., October 21, 1856.

JOHN N. GORDON,
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RICHMOND, VA.

May, 1856.

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WANTED, by a young lady residing at the North, a situation as Teacher, at the South, in either a family or public school. She is qualified to teach the common and higher English branches, Music, and Drawing. Credentials given if required. If in a family, she would prefer one of religious principles. Address the Editor of the "Carolina Cultivator." feb. 118-tf.

